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AVIATION DEVELOPMENT IN RUSSIA'S FAR EAST

A THESIS SUBMITTED TO THE GRADUATE DIVISION OF THE UNIVERSITY
OF HAWAII IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF

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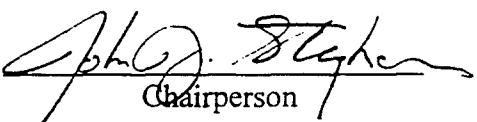
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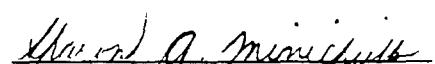
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To My Bride

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D. M. B.

Honolulu
May 1996

ABSTRACT

The majority of western scholarship on Russia and the Soviet Union focuses on European involvements, particularly aviation studies. Such literature overlooks Russia's sprawling East Asia holdings, its strategic position in the North Pacific and the large aviation investment the nation made in its Far East. Hence, this work offers a Pacific perspective on military and civil aviation development in Russia from 1904 to the early 1970s. This region's natural wealth and location between North America and Asia inspired plans to protect, connect and exploit it by aviation. Moreover, during the formative years of flight, enmity with Japan and a Soviet emphasis on self-sufficiency greatly influenced aviation's employment. Military expenditures overwhelmed civil development, and not until the early 1970s, did any regular international service connect with Russia's Far East. Perhaps other scholars will further investigate the military structuring, civil developments, economic consequences or personalities subsequent to those introduced in this work. Toward such understanding, this text offers both explanation for the Far East's lengthy aerial isolation as well as an appreciation for the Russian paramilitary approach to aviation.

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CHAPTER 1

SETTING THE STAGE

In the midst of World War II, geopolitical analysts discussed the future of Pacific aviation in the post-war reconstruction. As predicted, the vast distances of the Pacific destined aviation to play a major role in subsequent military and economic developments. One particular article in a 1942 edition of Foreign Affairs lists the major competitors for air routes up to that point. British, French, Dutch, Japanese, American and Chinese concerns all appear in the text. Yet, the one nation with the longest coastline in the entire Pacific basin (over 3,100 miles from Korea to the Bering Strait) is completely absent from this discussion.¹ Much like Russia's bold maritime probes and retreats into the Pacific (including Japan, to Alaska, California and Hawaii), budding Russian aviation made its share of sensational flights within and out of its Far East. However, it left few traces and grew increasingly insular as it matured.

After World War II and its Korean epilogue, the non-communist Pacific community wove a web of air routes and economic ties that circumvented Soviet Pacific airspace. In contrast, Cold War competition prompted the Soviets to build the world's largest air force at the expense of civil aviation, particularly in the Far East.² This pattern continued.

¹ Grayson Kirk, "Wings Over the Pacific," Foreign Affairs 20 (Jan. 1942): 293-302.

² Kenneth R. Whiting, "Soviet Civil and Paramilitary Air Power," in The Impact of Air Power: National Security and World Politics, ed. Eugene M. Emme (Princeton, NJ: D. Van Nostrand Company, Inc., 1959), 572.

Khrushchev amended Stalin's one-dimensional use of airpower, and revived commercial aviation in the USSR.³ Nevertheless, the Soviets so guarded their Far East airspace that no foreign, commercial air service made regular connections to it (Irkutsk-Peking and Irkutsk-Pyongyang routes excepted) until the Khabarovsk-Tokyo route opened on 4 June 1971.⁴

Similar sustained aviation ties with North America remained almost nonexistent until the collapse of Soviet rule. The main exception was a limited series of Alaska Airlines charter flights to Khabarovsk between 1970 and 1972. Bureaucracy within the centralized Soviet economy squelched the commerce this brief effort hoped to introduce, and negated the flights' profitability.⁵ This coincides with John Curtis Perry's statement that, "Transportation is a matter of routes . . . determined by politics and technology as well as by markets and routes of supply."⁶ That observation lends focus to our topic. With a particular emphasis on the years preceding World War II, this paper will trace the major events of aviation in the Far East from 1904 up to the 1970s. During this period in particular, Soviet aviation in the Far East emphasized military protection and internal economic integration with western Russia. Perhaps this study will offer further insights

³ During Stalin's tenure, the Soviet Union did not even establish regular air service with its satellite nations according to Hans Heymann, Jr. The U.S.-Soviet Civil Air Agreement From Inception to Inauguration: A Case Study (Santa Monica, CA: RAND, Jul. 1972), 5, R-1047-DOS.

⁴ Understandably, regular flight service between Moscow and Tokyo preceded the Khabarovsk route. Japan Airlines and Aeroflot inaugurated that exchange on 20 April 1967, but the focus here is connections with the Far East, not just means to bypass it. Hugh MacDonald, Aeroflot: Soviet Air Transport since 1923 (London: Putnam, 1975), 306.

⁵ Archie Satterfield, The Alaska Airlines Story (Anchorage, AK: Alaska Northwest Publishing Co., 1981), 151.

⁶ John Curtis Perry, Facing West: Americans and the Opening of the Pacific (Westport, CT: Praeger, 1994), 75.

on what kept the Soviet Union so isolated from the Pacific basin militarily and economically.⁷

Pausing here, one still has to ask a few questions. Did geography nudge Russia's Far East to the periphery of Pacific aviation developments? Who were the visionaries that included Russia in their Pacific ambitions? What were some of the aviation developments in Russia's Far East before, during and after Stalin's tenure? With these questions in mind, I will trace aviation's formative years in Russia's Far East and show how coincident enmity with Japan exacerbated a soloist Soviet economic policy. Both helped create that region's aviation legacy consisting of a heavy military presence and an internalized civil air route structure. In other words, this work will reveal partly how aviation in Russia's Far East became an aegis against, more than an access to, the Pacific.

Considering that thesis, we shall survey the context of Far East geography and its relation to Soviet aviation. Then we shall trace the dawn of aviation in the Far East, the military buildup of the 1930s and its consequences, epic flights vis-à-vis Japan, aerial ties with America, and finally Soviet civil air developments in the Far East.

Owing to the scope of this topic, my definition of aviation is of necessity broad. Throughout this work, 'aviation' includes both lighter-than-air and heavier-than-air craft.

⁷ Soviet trade in the Pacific basin rarely went above a historically meager four to eight percent share. John J. Stephan, "Siberian Salient: Russia in Pacific Asia," in Pacific Century: The Emergence of Modern Pacific Asia, ed. Mark Borthwick (Boulder, CO: Westview Press, 1992), 495; Michael J. Bradshaw, "Soviet Far Eastern Trade," in The Soviet Far East: Geographical Perspectives on Development, ed. Allan Rodgers (New York, NY: Routledge, 1990), 248.

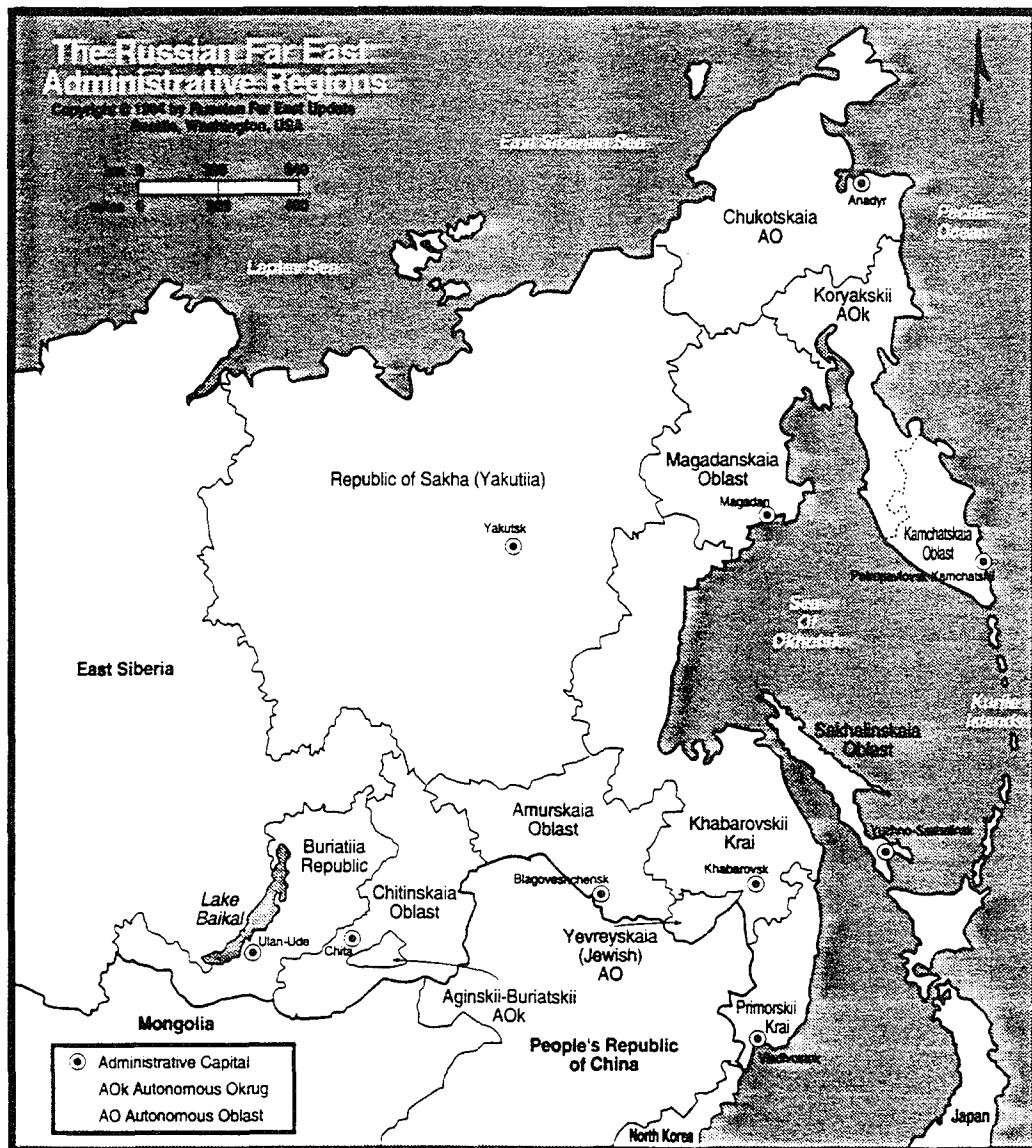


Fig. 1.1. Current Far East Administrative Regions.
 [Reprinted, by permission, from Elisa Miller, Editor and Publisher,
 Russian Far East Update (Dec. 1995), 16.]

In good Russian tradition, it also embraces both military and civilian uses. Otherwise, qualifying terms make the necessary distinctions. Using such a definition better shows how the dimension, natural wealth, and geopolitical position of the Russian Far East all have potential synergism with aviation. Indeed, these relationships proved decisive during the formative years of flight in this region.

Far East Geography and Transport

Before going further, Professor John Stephan's definition of the Far East will clarify an otherwise nebulous expression. More specific than 'Siberia,' this area accounts for twenty-eight percent of Russian territory and encloses 2.4 million square miles. It lies between Lake Baikal and the Lena River, extends east between China and the Arctic Ocean, and currently has thirteen administrative regions. Three quarters of its territory consists of the Magadanskaia and Kamchatskaia Oblasts, the Koryaksii Autonomous Okrug, the Chukotskaia Autonomous Oblast and the Republic of Sakha (Yakutia). The more populous southern divisions consist of the Buriatiia Republic, the Chitinskaia, Amurskaia (hereafter referred to as the Priamur) and Sakhalinskaia Oblasts, the Aginskii-Buriatskii Autonomous Okrug, the Yevreyskaia (Jewish) Autonomous Oblast, and finally, the Khabarovskii and Primorskii (hereafter referred to as the Primorye) Krais. (See Fig. 1.1.) Thus sprawling between forty and seventy degrees North latitude, the Far East environment ranges from subtropic bamboo groves on the South Kuriles to ice and snow along the arctic shores of the East Siberian Sea.⁸

⁸ John J. Stephan, Russia on the Pacific (Medford, MA: Fletcher School of Law and Diplomacy, 1989), 6. The Soviet definition of the Far East economic region excluded the Buriatiia Republic and the Chitinskaia Oblast; however, the Soviet military included these in defining the Far East Military District.

This area, like the rest of Russia's yawning expanse, cries out for air transportation. The region's climate and topography constantly challenge surface transport. Consequently, connecting the resources and settlements scattered throughout the Far East with each other and western Russia is an ongoing challenge.

Russia's waterways, namely the Ob, Yenisei and Lena Rivers are among the longest in the world, but they offer limited use. Their north-south orientation does not accommodate the predominant east-west flow of traffic.⁹ Moreover, the bulk of Russia's 142,700 kilometer (88,670 mile) river and canal network serves primarily the western part of the nation during a limited summer navigation season.¹⁰ These rivers freeze solid for up to seven months each year. Spring thaws compound problems because breakup of river ice starts in the south and moves northward often creating ice or log jams and destructive floods.¹¹ Occasional summer droughts can also halt river traffic just as thoroughly.¹² Other bodies of water (lakes and seas) internal to Russia remain widely separated and peripheral to national commercial arteries. Thus, oceanic routes hold some appeal.

The Northern Sea Route is one option that the Soviets thoroughly explored to connect its east and west limits. This passage becomes particularly hazardous to ships in the East Siberian Sea. Near Wrangel Island, tremendous ice hummocks rise fifty to sixty-six feet above the water's surface, measure three-and-a-half miles in width and extend for dozens

⁹ Stephen Lee Sutton, "Geographic Factors in the Development of Civil Aviation in the USSR" (M.A. thesis, University of California, Los Angeles, 1964), 19.

¹⁰ MacDonald, intro.

¹¹ Sutton, 19.

¹² Robert N. North, "The Far Eastern Transport System," in The Soviet Far East: Geographical Perspectives on Development, ed., Allan Rodgers (New York, NY: Routledge, 1990), 199.

of miles. Driven by ocean currents, they easily crush ships caught between them. To compound matters, lesser ice floes can still block passages during the navigation seasons which fluctuate unpredictably between seventy and one hundred twenty days each year.¹³ Faced with such obstacles by water, rail transport (and to a small degree, roadways) is the major year-round means of surface transport to reach the nation's periphery.

Due to necessity and Soviet design, Russia's Far East has a very simple transport system, and the Trans-Siberian railway is the prime artery.¹⁴ By 1970, this and the rest of the Soviet Union's railway network still shouldered the bulk of the nation's freight. Though it barely reaches into the Far East, the Trans-Siberian became so important that over half the region's population and economy still concentrates around it. Consequently, the Soviet government encouraged aviation to connect regions beyond the reach of this lifeline.¹⁵ The railroad's proximity to Russia's southern border hints at another impediment favoring aviation over surface travel in the Far East.

Permafrost is a formidable barrier to surface transport that covered forty-five percent of the Soviet Union.¹⁶ The Far East has most of this, and permafrost still plagues a full seventy percent of its area.¹⁷ Parts of the Far East endure winter for up to nine months a

¹³ Sutton, 16-19.

¹⁴ Soviet planners sought a comprehensive, transport network integrating all forms of transport with minimal overlap. The ultimate goal was to use resources more efficiently for other industrial capital investment. Though appealing in theory, regional competition over scarce resources, bottlenecks, breakdowns and bureaucratic largesse undercut the effectiveness of this approach. Nevertheless, the system made notable achievements and its concepts largely determined the role of civil aviation. Kendall E. Bailes, "Soviet Civil Aviation and Modernization, 1923-1976," in Soviet Aviation and Air Power: A Historical View, ed. Robin Higham and Jacob W. Kipp (Boulder, CO: Westview Press, 1977), 168.

¹⁵ North, 185. By 1975, the Soviet Union's total roadway network spanned a modest 511,600 kilometers (31,790 miles) with only twenty percent of this serving the nation east of the Urals. MacDonald, intro.

¹⁶ Sutton, 23.

¹⁷ John J. Stephan, The Russian Far East: A History (Stanford, CA: Stanford University Press, 1994), 11.

year. Inland continental climates generate temperatures as low as minus seventy-one degrees Celsius at Oymyakon in Yakutia. Such a harsh continental climate can block roads in winter and create further hazards when thaws in permafrost do occur. Shifts in permafrost cause building foundations and bridge pilings to shift eight or ten inches per year, and this movement bends railroad rails six inches or more. The most extreme cases occurred where roads and railways traversed permafrost zones of high water and sand content. In such places, entire railbeds, even engines and railcars, disappeared into the seasonal quicksand.¹⁸ Aviation cannot begin to match the cargo capacity of surface transport. Nevertheless, its ability to partially dodge the barriers to surface travel held great appeal for Soviet planners.

The capital investment for an air route is a fraction of that required to build other forms of transportation more subject to permafrost. In 1960, it cost only 10,000 rubles per kilometer to build an air route versus the 800,000 rubles per kilometer for a highway or the 1.2 million rubles per kilometer for a railroad.¹⁹ During the initial stages of Soviet economic and aviation development, aircraft used pontoons or skis to land on Far East waterways and altogether bypassed permafrost difficulties.²⁰ By the mid-1960s, Soviet construction technology reduced effects of the soil's pulsation upon structures including: airport terminals, maintenance hangars, taxiways and runways.²¹ Other partial solutions

¹⁸ MacDonald, intro.; Sutton, 23-26.

¹⁹ Although initial route construction is cheaper, aviation's chief disadvantage is its high cost of operation. Its operating expenses are the highest of any transportation mode, and over time, this proved to be a significant detractor for Aeroflot's ambitious expansion of domestic passenger service during the 1970s. Bailes, 169-170.

²⁰ Vladimir Fedorovich Danilenko, Kryl'ia Dalnego Vostoka (Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1972), 20 and *passim*.

²¹ Sutton, 181-182, Bailes, 169.

minimizing permafrost effects in outlying airports included: designing aircraft with short-field takeoff and landing capability, sturdy landing gear to operate from unimproved airstrips and widespread use of helicopters.²² Soviet planners greatly appreciated aviation's ability to reach otherwise inaccessible areas of the Far East and the nation as a whole.

Given aviation's payload limitations, pilot and Hero of the Soviet Union Vasilii Sergeevich Molokov accurately explained, "Civil aviation in the USSR attained its greatest development as a means of transportation and communication."²³ In that regard, aviation held great promise to draw the Far East closer to the nation's capital. In earlier times, hundreds of miles of impassable taiga separated the few existing settlements in the Far East for months and even years from the capital and each other. Prior to aviation, travel options to much of the Far East required weeks or months of tiring (and often hazardous) rides on steamship, dogsled, horse or even reindeer. Apart from passengers, Soviet theory emphasized aviation's advantages in transferring lightweight, high-value cargo including: mail, newspaper templates and other means to improve Moscow's control of the periphery.²⁴ That was no easy task.

The Far East's vast area and sparse settlement (the Far East has historically held at or below three percent of Russia's total) make it both resistant to tight government control

²² Sutton, 176, 180.

²³ Vasilli [sic] Vasilii Sergeevich Molokov, Soviet Civil Aviation (Moscow: Foreign Languages Publishing House, 1939), 5.

²⁴ Bailes, 169; Danilenko, Kryl'ia Dalnego Vostoka, 8-9,130.

and strategically difficult to defend.²⁵ Let it suffice here to say that tensions with bordering Japan (and later China) as well as the region's centrifugal potential from Moscow's grasp affected Soviet perceptions of the Far East and aviation use within its bounds.

Russia's Far East certainly has natural wealth worth defending and developing by aviation. Shortly before a fatal aircraft accident in 1939, Hero of the Soviet Union, Polina Osipenko wrote a romantic account of her 1938 record flight from Moscow to Komsomol'sk-na-Amure. Her description reveals not only the expanse of the Far East, but also the well-established lure of resources that aviation promised to further open. She mentioned how Soviet fliers studied the nation's wealth with scrupulous attention.²⁶ Under Stalin's five-year plans, pilots assisted geologists in charting untapped deposits of over fifty minerals in the Far East including coal, oil, iron, bismuth, cadmium, tungsten, molybdenum, antimony, graphite, and gold. The obsession of Midas figures prominently in hers and other aviation accounts of the Far East.²⁷

By 1939, the Far East supplied one third of the gold refined in the Soviet Union to finance its rapid industrialization. Deposits in riverbeds, mountain ranges and coastal shores prompted Osipenko to list such remote places as Anadyr on the Chukotka Peninsula and the now infamous Kolyma gold fields, developed under the crush of the

²⁵ Leslie Dienes, "Economic and Strategic Position of the Soviet Far East," Soviet Economy 1 (Apr.-June 1985): 149; Allan Rodgers, introduction to The Soviet Far East: Geographical Perspectives on Development, ed., Allan Rodgers (New York, NY: Routledge, 1990), 1.

²⁶ Paulina Ossipenko [sic] Polina Osipenko, The Soviet Far East (USSR: Foreign Languages Publishing House, 1939), 19.

²⁷ Danilenko, Kryl'ia Dalnego Vostoka, 8.

Gulag system.²⁸ Others echo her description while adding furs, fish and timber to the list of treasures.²⁹ Though more abstract, the Far East's geographic position offers potential value as well.

The Far East's distance from western Russia and proximity to an industrialized Japan affected Far Eastern history several times in this century. As with other forms of transport, this positional relationship also affected aviation development in the Far East. Likewise, the Far East's access to Alaska and North America via the North Pacific Arc played a part in aviation history. Expansion on both of these points follows later. However, before we can discuss Russian and Soviet aviation in the Far East, we need to understand its military and civil origins in western Russia.

Russian and Soviet Aviation Overview

Apart from notable achievements of individual airmen, Tsarist Russia left the Soviet Union with a sizable, but relatively inoperative air fleet and a paltry aircraft industry. As a latecomer to the industrial revolution, Tsarist Russia compensated for its anemic manufacturing capacity with an aggressive outlay of funds. The government established the Imperial All Russian Aero Club in 1908 and sent individuals abroad to learn how to fly. In return for government subsidization, the aero clubs placed their private machines at the disposal of the War Department. This set an enduring precedent for the paramilitary nature of most Russian aviation.

²⁸ Stephan, The Russian Far East, 225-227.

²⁹ Danilenko, Kryl'ia Dalnego Vostoka, 8.

St. Petersburg bought numerous aircraft and dirigibles from France, Britain, the United States, and Germany to start its air fleet. Soon thereafter, Russia built military installations at Sevastopol (in the Crimea) and Gatchina (near St. Petersburg) to host Russia's first flight schools. Such efforts paid off, and by 1 August 1914, when Germany declared war against Russia, the Tsar's air force fielded a respectable total of 263 aircraft, approximately twenty dirigibles and several hundred pilots. By comparison, Germany had thirty-two airplanes, Britain mustered 130 and Austria had only sixty-five aircraft. In contrast, the United States had very few aircraft for its total of twenty-three pilots in 1916.³⁰

Russia's dependence on foreign manufactures quickly eroded the operational effectiveness of its air fleet, and it left almost no foundation for the Soviets to inherit. Tsarist Russia never manufactured a single automobile, and hence, its ability to produce motors proved a significant Achilles' heel. At the height of World War I, Russia's aviation industry totaled ten to sixteen aircraft plants with a total work force of 10,000. In reality, these factories amounted to little more than crude workshops that made poor copies of foreign design.³¹ Due to the Russian's inability to achieve the required machine tolerances, engines often failed. Moreover, Russia's plethora of foreign models with incompatible parts made repairs all but impossible as the war progressed.³² Fuel and lubricants were another problem that forced Russian pilots to burn "Kazan blend." This was little more than various combinations of alcohol and kerosene. Those crude mixtures

³⁰ Robert A. Kilmarx, A History of Soviet Air Power (New York, NY: Praeger, 1962), 4-7; Kenneth R. Whiting, Soviet Air Power (Boulder, CO: Westview Press, 1986), 5.

³¹ Ken Craven, The Story of Soviet Aviation (London: The Russia Today Society, 1945), 1; Kilmarx, 8.

³² Kilmarx, 34,36.

frequently caused engines to fail in flight or pilots to land with a splitting headache after hours of breathing sooty exhaust.³³ These factors grounded much of Russia's air fleet by the time of the October Revolution.

Amidst the chaos of revolution, the Bolsheviks managed to accumulate as many as 400 aircraft, and they employed these primarily over western Russia. Soon after the Brest-Litovsk Treaty in March 1918, the Central Committee of the Communist Party formed an administrative staff to organize the Air Fleet and its remaining 150 operational aircraft.³⁴ From that small assembly, eventually grew the Soviets' air fleet. At its apex, the fleet actually consisted of six air forces: The Army Air Force (VVS-SA), the Long-Range Flying Command (ADD), the Anti-Aircraft Defense Forces (PVO), the Navy Air Force (VVS-VMF), the Airborne Troops (VDV), and finally, Civil Aviation (GVF) which became officially known as the Ministry of Civil Aviation in 1964.³⁵

Civil aviation made an early start in western Russia under the Soviet regime. Lenin himself laid the roots of Soviet civil aviation when he signed a proclamation titled "About Air Transportation" on 17 January 1921. This document set out basic regulations for air transport over the Russian Federation's territory, and this set the precedent later used by the Soviet Union. By the end of that month, he appointed a state commission,

³³ David R. Jones, "The Beginnings of Russian Air Power, 1907-1922," in Soviet Aviation and Air Power: A Historical View, ed. Robin Higham and Jacob W. Kipp (Boulder, CO: Westview Press, 1977), 29; Whiting, Soviet Air Power, 5.

³⁴ Kilmarx, 34, 36.

³⁵ Bailes, 170; Richard E. Stockwell, Soviet Air Power (New York, NY: Pageant Press, 1956), 67.

Glavvozdukhoflot (Chief Administration of the Civil Air Fleet), to plan civil air operations for the state.³⁶

In building both civil and military aviation, the Bolsheviks had to repeat the tsarist pattern of infusing foreign technology with their own. In the wake of World War I, most aircraft firms of other nations were in a state of depression and welcomed Soviet purchases. Well into the 1930s and 1940s, while developing and producing their own designs, the Soviets bought, or built under license, aircraft and engines from several countries including the United States, Italy and, in particular, Germany.³⁷

Although a mail and passenger route connected Moscow, Orel, Kursk and Kharkov by 1 May 1921, it took a joint effort with Germany to make Soviet civil air transport a viable enterprise. On 11 November 1921, *Deruluft* (Deutsch Russische Luftverkehrs A. G.) formed and began service between Moscow and Konigsberg in May 1922. This enterprise was the most open manifestation of an ongoing Soviet-German collusion that secretly sidestepped the disarmament provisions of Versailles. In exchange for sanctuary to rearm Germany, Russia gained, among other things, aircraft technology and factories.³⁸

Thus, by 1925, Fokker F. IIIIs, Dornier Merkur D-1079s, trimotor Tupolev ANT-9s, and Junker Ju-52s made daily passenger and mail deliveries between Moscow, Berlin, and elsewhere. Deruluft continued to operate until 1937 when strained Soviet-German relations broke off regular air service. The Hitler-Stalin Pact of August 1939 created a

³⁶ MacDonald, 1-2; It is also noteworthy that Lenin signed over 200 documents pertaining to aviation between 1918-1919. Aleksandr Fedotovich Aksenov, *Civil Aviation in the USSR: the Fiftieth Anniversary of its Foundation* (Washington, DC: NASA, 1974), 2.

³⁷ Craven, 2.

³⁸ As early as February 1918, German pilots ferried aircraft to the Bolsheviks as far as Krasnoyarsk. Kilmarx, 59, 68-69.

temporary friendship and flight service between Germany and the Soviet Union resumed in 1940 until the outbreak of war in 1941.³⁹

The resultant cadre of Russian pilots from the Deruluft venture soon filled the ranks of Soviet aviation. From the outset, overall supervision of the civil air branch fell under military control by the Red Air Fleet. *Sovnarkom* (Council of the People's Commissariat) made this provision official on 3 February 1923, and this date became the official "birthday" of Soviet civil aviation. Organization of civil aviation went through several permutations during and after the experimental NEP (New Economic Policy, 1921-28). In 1923 the Council on Civil Aviation organized three separate joint-stock (state run) enterprises: *Dobrolet* (Russian Voluntary Aviation Society), *Ukrvozdukhput* (Ukrainian Society of Airlines), and *Zakavia* (Caucasian Air Fleet Society). The latter two had limited jurisdiction, and they merged in 1925. In 1928, Dobrolet absorbed the enlarged Ukrvozdukhput, and the bureaucratic metamorphosis continued a few years later.⁴⁰

On 29 October 1930, *Sovnarkom* (Council of the People's Commissariat) made two organizational changes that transferred all civil aviation functions under the direct control of the Council for Labor and Defense. That generated the All-Union Enterprise of the Civil Air Fleet (VOGVF) and dissolved Dobrolet. The final reorganization occurred when the GUGVF (Chief Directorate of the Civil Air Fleet) assumed control on 25 February 1932 and adopted *Aeroflot* as the fleet's title on 25 March 1932.⁴¹

³⁹ MacDonald, 3-5.

⁴⁰ Aksenov, 2; Secor D. Browne, *Aeroflot: Soviet Civil Aviation* (New York, NY: Society of Automotive Engineers, 1960), 1; MacDonald, 2, 10.

⁴¹ MacDonald, 10.

Throughout the Soviet era, Aeroflot served both as a lesser part of the nation's transport network and as an auxiliary to the military. Hence, it remained under the supervision of the Ministry of Defense.⁴² When its assets were not mobilized for military use, Soviet civil aviation's all-encompassing missions fell into six basic categories:

1. Air transportation - domestic (and later, international) movement of passengers and cargo, construction and maintenance of terminal and enroute facilities, training, and portions of aircraft research and development.
2. Agriculture, forestry and other branches of the economy - pest control, fertilizing, sowing, combating forest fires, iceberg monitoring and marine-life spotting.
3. Geodesic and cartographic services - aerial photography, mapping and exploration for oil and mineral deposits.
4. Scientific investigation - meteorological studies, exploration of new territories and polar investigations.
5. Medical services - aerospace medicine, ambulance and rescue work.
6. Culture, education and sports development - miscellaneous functions including propaganda flights and sponsorship of DOSAAF. This acronym stood for the Voluntary Society for the Support of the Army, Air Force, and Navy. It was a paramilitary organization instructing youth in flight, glider, and parachute activities.

To manage these diffuse functions, the Chief Directorate of the Civil Air Fleet had several bureaucratic layers. These consisted of: fourteen directorates (including political,

⁴² Bailes, 175.

international air routes, ground installations, communications and radio navigation), seven departments (planning, finance, labor and wages, technical, editorial and publishing, specialist training, and shipping) and twenty-one territorial administrations and republic aviation groups. Under this final heading came regional jurisdictions including Moscow, West Siberia, Central Asia, and the Far East.⁴³ The Far Eastern Administration of the Civil Air Fleet (DVUGA) eventually served as the nation's limited "gateway to the Pacific." Several years passed after World War II before that opening occurred.

From the 1940s until the late 1960s, Aeroflot's limited international ventures focused on satellite nations and third-world countries. Following the Chicago Convention on International Civil Aviation in November-December 1944 (commonly called the Chicago Conference), the Soviet Union officially refused to join western-led aviation organizations for several years. Aeroflot retained only a distanced association with the IATA until it officially joined the ICAO in 1970. The International Air Transport Association (IATA) is a trade association of private and government airlines, whereas the International Civil Aviation Organization (ICAO) is the United Nation's regulatory body staffed by representatives of signatory governments. The Soviet boycott of the ICAO (it also developed out of the 1944 Chicago talks) stemmed partially from fears that it was part of a "capitalist plot to dominate the world."⁴⁴

⁴³ Browne, 2-3; Stockwell, 85.

⁴⁴ Bailes, 182.

When it finally joined the ICAO, the Soviet Union began an aggressive pursuit of connections with western bloc nations. Some analysts surmise the reversal of that traditional isolationism stemmed from a desire to display Soviet power more than simple economic drives. That became increasingly evident as passengers out of the Soviet Union remained limited to official delegations and only a few hundred private tourists each year.⁴⁵ To better comprehend such inward tendencies, I will offer a Pacific perspective.

Rather than a comprehensive study of aviation in an area so vast as the Far East, this text offers an illustrative, preliminary survey. Perhaps, this will help answer some basic questions: first, why did it take so long for aviation to open Russia's Pacific borders, and second, what were some of the events and motives shaping Russia's and the Soviet Union's use of aviation to protect, control and exploit the Far East for its own use. As we shall soon see, this region posed a formidable challenge to several generations aviators.

⁴⁵ Ibid., 183-186.

CHAPTER 2

THE DAWN OF AVIATION IN THE FAR EAST

In spite of its great expanse and crossroads position, the Soviet Union's Far East airspace was among the most heavily defended and least integrated into the Pacific Rim. Though not exclusively, Russo-Japanese relations significantly affected the development of this militarized, aerial isolation. From the inception of aviation in the Far East, and throughout the first forty years of its maturation, military employment became the region's primary use of aircraft. This armed legacy endured until the demise of the Soviet Union.

In tracing the lineage of those who conquered the "Fifth Ocean" of the sky, Far Eastern authors frequently include Aleksandr Fedorovich Mozhaiskii (1825-1890).⁴⁶ Mozhaiskii was a Russian naval officer born in Finland who retired as a rear-admiral in 1886. He successfully flew glider models, and, in August 1883, he built an aircraft powered by two steam engines. They generated a total of thirty horsepower to propel, in theory, the 933.7 kilogram (2,053 pound) contraption.⁴⁷ Soviet sources admit the vehicle was not successful, but they do maintain that it was one of the first practical attempts to

⁴⁶ Iurii Filatov, "Aviatsiia v Rossii poiavilas' blagodaria dal'nevostochnikam," Vladivostok, 20 Aug. 1994, 9; P. Sharov, "Moguchie kryl'ia," Krasnoe znamia, 9 Feb. 1973, *; Danilenko, Kryl'ia Dalnego Vostoka, 10; S. Rosenfel'd, "Tak nachinalos' vozdukhoplavanie," Vladivostok, 15 Feb. 1994, 4.

⁴⁷ Browne, 7.

build an airplane.⁴⁸ Far Easterners claim Mozhaiskii as one of their own aviators because he served in the Siberian Military Flotilla and lived in Vladivostok at one point during his career.⁴⁹ Mozhaiskii's impact on aviation was negligible, particularly in the Far East. However, Russia's frequent reference to his memory is symbolic of the extreme reaches that actually did occur to retain and protect the Far East through aviation.

Tsarist "Snake Balloons" (Reaction to Japan)

Like many other technical innovations, Russia's earliest aerial ventures in the Far East came during wartime. Although news of the Wright brother's success preceded Russia's loss of Port Arthur, balloon technology was the state of the art in 1904. Facing imminent attack by Japan, Rear-Admiral K. P. Iessen of the Vladivostok flotilla took the initiative. Unwilling to wait for supplies and technicians from western Russia, he appointed a team led by Captain Fedor Alexis Postnikov of the engineer corps to begin secret construction of a balloon in May 1904.⁵⁰

Postnikov prevailed over several obstacles. Lack of experience and materials hampered progress, and orders to cease almost killed the effort until Rear-Admiral Iessen convinced his superiors otherwise. Thanks to such support, Engineer-Captain Postnikov's team completed the aerostat and dubbed it the *Espero*. Assuming responsibility for the airworthiness of the device, Captain Postnikov and an Ensign Polk made the first balloon ascent over Vladivostok on 24 July 1904. They went up 500 meters (1,640 feet) and photographed the shore defenses.⁵¹ While the *Espero* received first honors, its volume of

⁴⁸ Great Soviet Encyclopedia, 1974 ed., s.v. "Mozhaiskii, Aleksandr Fedorovich."

⁴⁹ A. Kravets, "Slavnaia istoriia," Krasnoe znamia, 18 Aug. 1971, *.

⁵⁰ Aleksei Buiakov, "Morskie vozdukhoplavateli," Vechernii Vladivostok, 22 May 1990, *; Rosenfel'd, 4.

⁵¹ V. Poloukhin, "Pervye vozdukhoplavateli," Vladivostok, 12 Jan. 1994, *.

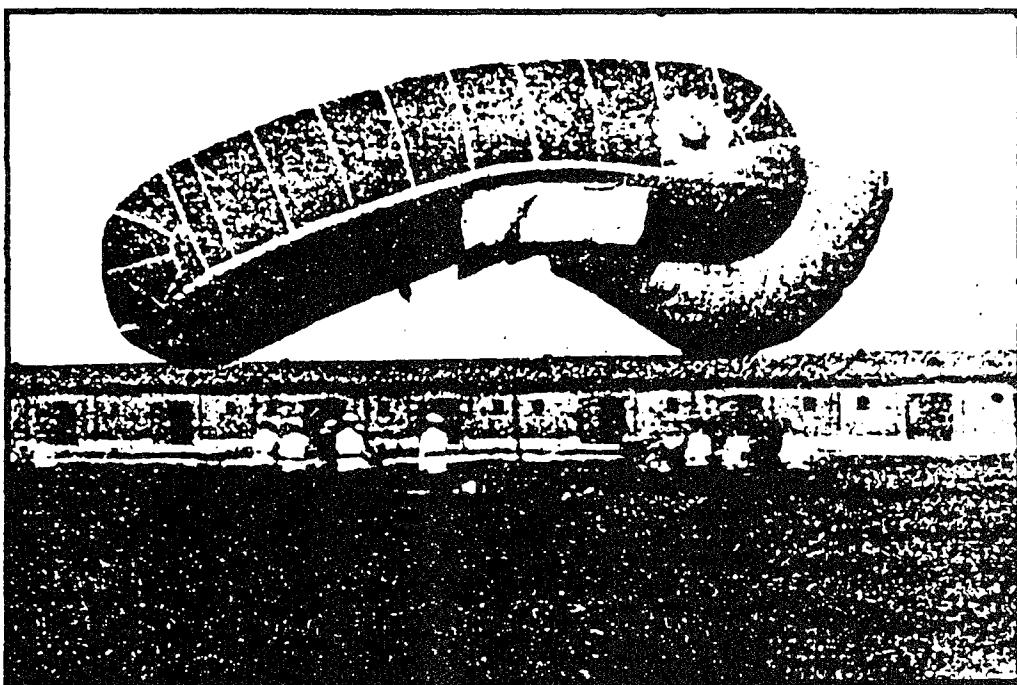


Fig. 2.1. "Snake Balloon" before launch circa 1904.
[Aleksei Buiakov, "Morskie vozdukhoplavateli," *Vechernii Vladivostok*, 22 May 1990, *.]

hazardous acid gas and construction defects led to an early retirement after only a few flights.⁵² Following his initial success, Postnikov and his unit established a permanent base of operations on Cape Egershel'd in the Vladivostok area.⁵³ That summer another balloon and twenty personnel from Sevastopol arrived, having diverted from Port Arthur at the last moment. In November, another "snake balloon" from St. Petersburg and ten sailors expanded the detachment's capability. (See Fig. 2.1.) This buildup continued, and by June 1905, the unit had six officers and 104 enlisted with a 17,290 ruble allotment to maintain operations.⁵⁴ Their duties included patrolling approaches to the city, spotting enemy ships, artillery correction, weather observations and the highly successful detection of enemy mines. Military balloonists also conducted more daring, untethered flights to photographically survey the shore defenses of Vladivostok and assess placement of future fortification.⁵⁵ Overall, this group achieved only forty-nine total sorties in 1904, but operational proficiency increased. By the close of war in September 1905, the balloonists accomplished an additional 1,945 sorties.⁵⁶

These numbers gain significance when one considers the techniques used and hazards endured. In their effort to patrol Far Eastern skies, the balloonists fought nature more than the Japanese. Although they used larger balloons, Postnikov's men had the least trouble with the smaller 500 cubic meter (14,000 cubic feet) balloons. Typically, two observers rose in their aerostats to altitudes of 500-800 meters (1,640-2,625 feet). Using either

⁵² Buiakov.

⁵³ Ibid.; Filatov, 9; Rosenfel'd, 4.

⁵⁴ Buiakov.

⁵⁵ Ibid.; Poloukhin.

⁵⁶ Buiakov.

signal flags or a telephone link, they made observations while tethered to a winch mounted on the ground, torpedo boats, or the cruiser *Rossiia*. These anchors were not foolproof, and gusts frequently tore balloons from their tethers.⁵⁷ Theater commander, Vice-Admiral Greve (first name not available)⁵⁸ wrote a letter praising the resourcefulness of two junior navy officers, August Pazhe and Peter Bratnikov, for sparing both life and equipment when winds set them adrift.⁵⁹ Similar incidents often left balloons and airmen snagged in trees. Such a fate was the least of Captain Postnikov's and Ensign Kovanko's worries on 12 April 1905. On that day, while executing a planned untethered flight in the *Chaika* (Seagull), Russian enlisted troops from Nikolsk-Ussuriisk fired shots at Postnikov's balloon thinking it was Japanese.⁶⁰ Perhaps this influenced his subsequent career choices.

Thanks to the diligent research of Aleksei Buiakov and Amir Khisamutdinov of the Far Eastern Geographic Society, we know more than a few details about Fedor Postnikov's life. Born to Alexis Semen and Mary Fedor (Radchenko) Postnikov on 29 February 1872, he grew up in Kovno, Russia. In 1891, at age nineteen, he graduated from the 1st Imperial Military School in Petrograd as a second lieutenant and joined the Ussuri Cossack Army. In 1895, he married Mary Nikolas Smirnov of St. Petersburg and

⁵⁷ Buiakov.

⁵⁸ His name does not occur in any of the following: *Sovetskaia voennaia entsiklopediia* 8 vols. (Moscow: Voenizdat, 1976-1980); A. A. Suvorin, ed., *Russko-iaponskaia voina* also called *Illiustirovannaiia khronika russko-iaponskoi voiny: prilozhenie k gazetie Rus'* No. 1-76 (8 Feb. 1904 - 26 Aug. 1905); Vladimir Vasilevich Luchinin, *Russko-iaponskaia voina, 1904-1905 gg: bibliograficheskii ukazatel knizhnoi literatury na russkom i inostrannyykh jazykakh* (Moscow: Gosudarstvennoe voennoe izdatel'stvo Narkomata oborony Soiuza SSR, 1940).

⁵⁹ E. Suvorov, "Pervye kryl'ia," *Krasnoe znamia*, 9 July 1967, *.

⁶⁰ Buiakov.

extended his duty in that city. While in St. Petersburg, between 1897 and 1899, Postnikov completed military engineer training and the Officers' Aeronautical School. For his efforts in Vladivostok, the Russian Admiralty (Navy Department) promoted Postnikov to lieutenant colonel in 1905, and he received two decorations from the highest command levels. Shortly thereafter, he emigrated to the United States. In 1907, he earned a Master of Science degree in civil engineering from the University of California. In 1916, the tsarist state police reviewed his past service records. Apparently, he was issuing propaganda against the Russian government while in America.

Whether or not those suspicions were valid, the records show that Postnikov did accept a commission as a lieutenant in the United States Army Signal Corps. By 1918, he was an assistant aeronautical engineer with the Goodyear Company in Akron, Ohio conducting experimental design work on dirigibles. In the following years, he designed several buildings, dams, harbors and other public works. He also wrote on technical subjects in English, Russian and Esperanto languages under the pseudonym of F. A. Post. In 1952, he died in Little Rock, Arkansas.⁶¹ Here ends the trail of the first man aloft over Russia's Far East.

Although less tangible than the shadows cast by snake balloons, a perceived specter of Japanese encroachment increasingly loomed over the Far East for the next forty years. The Russo-Japanese War caught Russia completely by surprise, and impressed upon it the need for sustained aerial vigilance. Fixed observation balloons became an enduring,

⁶¹ Ibid.; Who Was Who in America with World Notables: 1969-1973, vol. 5, Who Was Who (Chicago, IL: Marquis, 1973), 579; The Story of the Postnikov Family, compiled under the direction of Seraphim F. Post (s.l. : s.n., 1977).

albeit minor, part of Russia's military aviation. Consequently, the balloon detachment at Vladivostok continued service for several years after the Russo-Japanese War. One of Russia's most sensational pilots began his aviation career in that particular detachment.

After graduating from the Mikhailovsk Artillery School in 1906, Petr Nikolaevich Nesterov (1887-1914) reported to the Ninth East Siberian Artillery Brigade in Vladivostok. During that assignment, the impetuous young officer found two loves in the Far East. No slave to propriety or career enhancement, he married a local girl of common background, Nadezhda, soon after his arrival.⁶² He further agitated his superiors by openly sympathizing with mutinous soldiers. Thus, to preserve the dignity of their corps, Nesterov's commander transferred him after only three months service. Certainly a job as a balloon observer in the 142nd Artillery Company of Fortress Vladivostok would keep him out of circulation and out of trouble.⁶³

While in suspended 'confinement' over a river on the outskirts of Vladivostok, Nesterov became obsessed with flying. During his spare time, he built model gliders and devoured any available reading material about aviation. He put in for a transfer to pilot school, departed Vladivostok in May 1910, and completed flight school at Gatchina in 1913. Within months of graduation, he made his mark in world aviation history by being the first to perform a closed, vertical loop on 27 August 1913 at the Syretskii aerodrome.⁶⁴ Inadequate publicity of this feat initially allowed French pilot Pegut' to

⁶² V. Koliagin, "Na vzlete," Krasnoe znamia, 27 Feb. 1987, *; Kravets; Rosenfel'd, 4.

⁶³ Koliagin; Vladimir Zuev, "Na vzlete," Dal'nevostochnii uchenii, 23 (July 1991): 8; V. Shcherbak, "10 sekund, kotorye potriasi mir," Utro Rossii, 8 Aug. 1992, 5; Modern Encyclopedia of Russian and Soviet History, s.v. "Nesterov, Petr Nikolaevich."

⁶⁴ Koliagin; Mersh, s.v. "Nesterov, Petr Nikolaevich;" Shcherbak, 5; Zuev, 8.

accept global acclaim for this first. Nesterov's frustration mounted until the Frenchman "confessed" that he had read the telegram announcing Nesterov's feat a week before his attempt. Nesterov made other record-setting flights between Kiev, Odessa, Sevastopol and St. Petersburg. He also flew thirteen combat missions before accomplishing his final, fatal first--the ramming of an Austrian airplane in a dogfight on 26 August 1914.⁶⁵

First "Leaps" (During Accommodation with Japan)

While Nesterov pursued his meteoritic career, other Far East residents caught the flying bug, as well. In 1909, Vladivostok residents opened up the first Far Eastern chapter of the Imperial All-Russian Aero Club.⁶⁶ The following year, those members and other residents witnessed Vladivostok's first series of glider demonstration flights by F. Gromadskii, a student at the Tomsk Technological Institute. While he was home on summer vacation, he built a full-scale wood and fabric glider. Upon completion, he piloted it at Vladivostok's municipal hippodrome located at *Gniloi uglu* (Damp Corner), which is now the site of the Stadium of the Red-Banner Pacific Fleet (KTOF).⁶⁷ His twenty-plus flights ranged anywhere from twenty-one to seventy-five meters (70 to 245 feet) before he crashed. The fall damaged the glider, but Gromadskii walked away unhurt.⁶⁸ His demonstration was but a prelude to the significant role that heavier-than-air flight played in the Far East.

Initially, events conspired to keep Russian aviation development concentrated in the west. St. Petersburg faced mounting tensions in Europe and competition for (among other

⁶⁵ Shcherbak, 5.

⁶⁶ Kravets.

⁶⁷ Filatov, 9; Kravets; Poloukhin.

⁶⁸ B. A. Avgustovskii, "Letaiushchie etazherki," *Krasnoe znamia*, 5 Aug. 1978, 3; Suvorov.

things) air supremacy. Moreover, proximity and common interests in Manchuria led to the consummation of the Russo-Japanese secret conventions of 1907, 1910, and 1912. These agreements temporarily renewed a wary cooperation between Russia and Japan.⁶⁹ Such tenuous amiability, along with European balance of power calculations, made the need for a large aircraft deployment to the Far East a low priority.

Though few, Russian pilots in French-built Farmans did fly over the more remote settlements of Imperial Russia before World War I. One of Russia's first pilots, Mikhail Nikofimovich Efimov, played a key role in this effort. He also trained his mechanic, Iakov Ivanovich Sedov, to fly. Although a single caption in a recent volume from Vladivostok credits pilot Serguei Utochkin with flying over Vladivostok in 1910, this must be discounted. The weight of evidence shows that Iakov Sedov was the first pilot in Russia's Far East in 1911.⁷⁰

Iakov Sedov was not an officially certified pilot; instead, Mikhail Efimov trained him on the side. This was the least he could do. Before entering their flying careers, Efimov and Sedov established a close friendship in their mutual pursuit of bicycle racing. Both had competed in France before, but in the case of flight training, only Efimov managed to find a wealthy patron to sponsor him through Henri Farman's flight school in Paris. Aware of his friend's impoverished status, Efimov proposed, "You go as a mechanic to the hangars, and I will teach you to fly."⁷¹

⁶⁹ MERSH, s.v. "Japanese-Russian Relations," by George Alexander Lensen; Peter S. H. Tang, Russian and Soviet Policy in Manchuria and Outer Mongolia (Durham, NC: Duke University Press, 1959), 61-65.

⁷⁰ Filatov, 9; Kravets; V. Smeian, "Na tsare aviatsii," Vladivostok, 17 Aug. 1991, 4; Suvorov; Vladimir Trofimov, Starii Vladivostok: Old Vladivostok (Vladivostok: Ustro Rossii izdatel'stvo, 1992), item 174.

⁷¹ Smeian, 4.

Although Sedov grew disheartened with the unfamiliar work on engines and other more menial tasks, he persevered and developed into a talented mechanic. He learned such necessary tasks as adjusting the timing, stretching piano wire, and tacking percale. Such tasks did little to boost his morale. Moreover, Sedov must have been a patient man to stand aside as his friend gained personal glory and world renown. Efimov received a gold medal for establishing a duration record with a passenger on board. Sedov's friend also gained honors in international competition at Reims, Verona, Nice, and Budapest before testing aircraft for the French War Department.⁷²

During their time abroad, Efimov kept his word and thoroughly trained Sedov during off hours. Sedov flew with precision but drew praise only from his mentor. Not even these aviation pioneers could evade the grasp of bureaucratic paper work. Since Sedov's training was unofficial and funds had run out, he could not get a pilot certificate.⁷³ True to their heritage, these Russian gentlemen found creative ways around that impediment.

Efimov accepted a job as chief pilot of the Sevastopol Aviation School. There, he developed new techniques for banking, diving and power-off flight.⁷⁴ He also retained Sedov as his mechanic, and continued the training. Shortly thereafter, Sedov's prospects improved.

⁷² Ibid.

⁷³ Ibid.

⁷⁴ MERSH, s.v. "Efimov, Mikhail Nikiforovich."

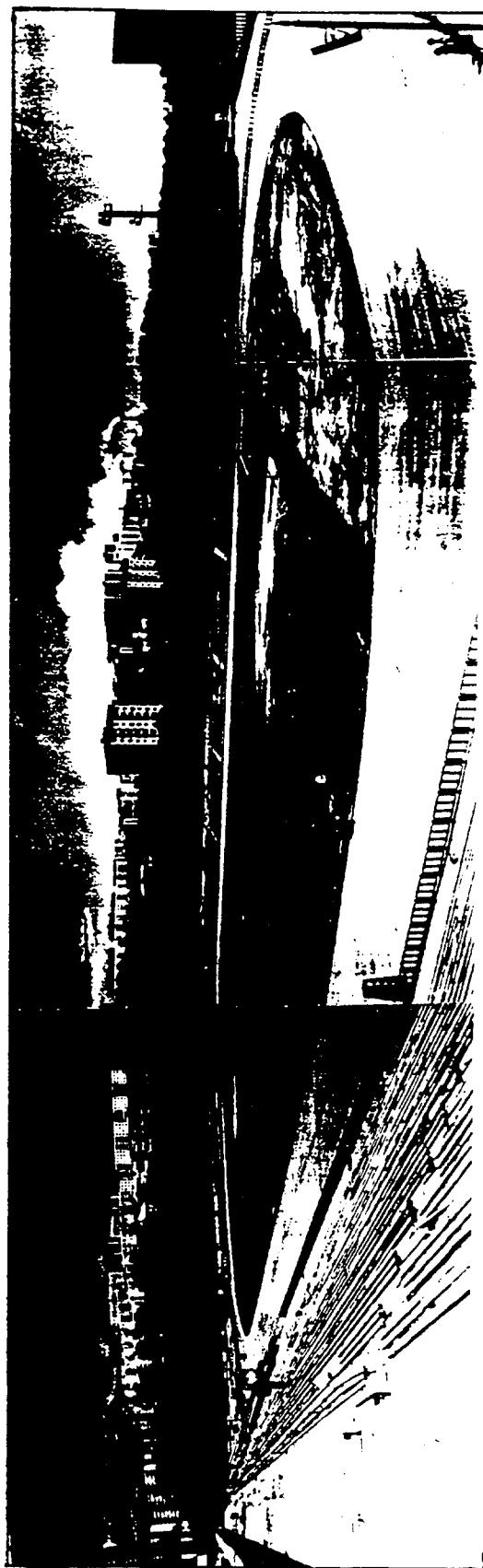


Fig. 2.2. Vladivostok's Red Banner Pacific Fleet Stadium, former site of Vladivostok's hippodrome. [Photo by author, 1995]

The government tasked Efimov to organize demonstration flights in the outskirts of Russia. Efimov convinced his superiors that he, as the commander of the flight school, needed to maintain flight currency and could ill-afford leaving his post on a lengthy trip. Instead, he suggested that Sedov take his place, vouching for both his personal expenses and his ability. Soon, Sedov set off for the Far East accompanying his Farman biplane on the Trans-Siberian Railway.⁷⁵ The Harbin newspaper, *Novaia zhizn* (New Life), partially sponsored the purchase of Sedov's aircraft, and he made his first demonstration there before reaching Vladivostok. Upon reaching the city that "rules the East," Sedov had the airplane assembled at the same grassy flat Gromadskii used a year prior.⁷⁶ (See Fig. 2.2.)

The Farman was a simple machine that looked more like a box-kite than a technical wonder to local skeptics. Translucent yellow cloth covered a wood and wire frame propelled by an ENV motor rated at sixty-three horsepower and 1,400 revolutions per minute. That small engine and two chain-driven propellers were sufficient to propel the aircraft's total of 363 kilograms (800 pounds) into the air. Humble appearances aside, the machine and its pilot were the center of attention in Vladivostok in 1911.⁷⁷

Thanks to advance notice by posters and local newspaper articles, "the entire town" closed down after midday on 8 May, and crowds overwhelmed the hippodrome hours before the flight.⁷⁸ Spectators perched on fences, nearby rooftops and trees to get a better view, and sailors in port swarmed on the decks. Some in the crowd muttered skeptical

⁷⁵ Smeian, 4.

⁷⁶ Kravets.

⁷⁷ Fred T. Jane, All the World's Airships (London: Sampson, Low, Marston, and Co., Ltd., 1910), 179; Kravets.

⁷⁸ Filatov, 9.

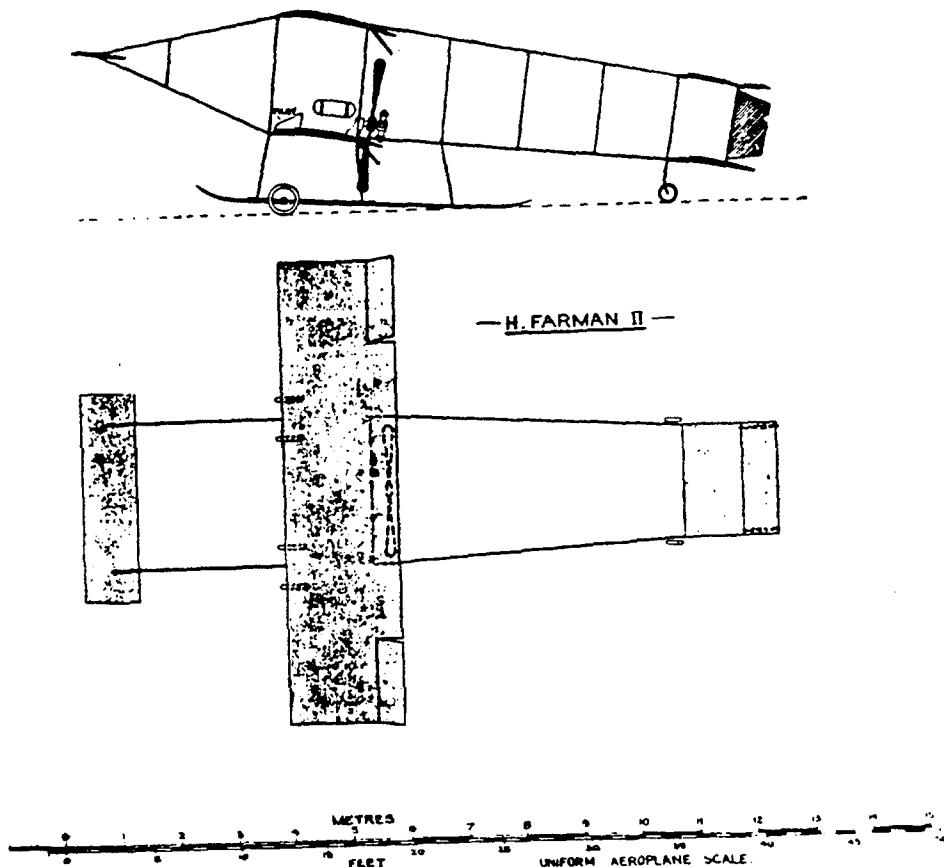
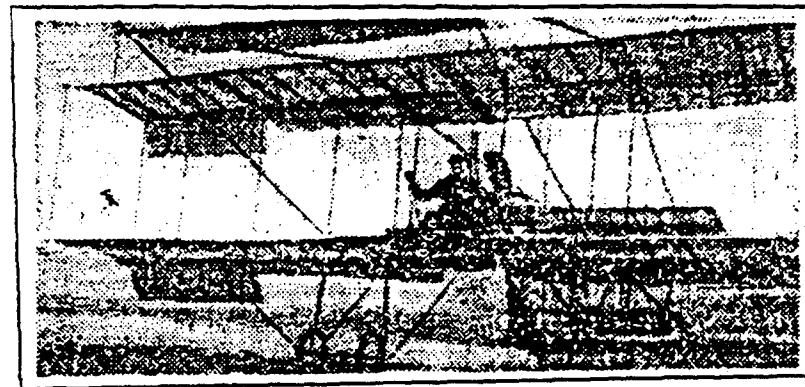


Fig. 2.3. Farman biplane similar to that used by Iakov Sedov.
[V. Pechorin, "Pionery russkom aviatsii," *Krasnoe znamia*, 23 Sep. 1982, *; Fred T. Jane, *All the World's Airships* (London: Sampson, Low, Marston, and Co., Ltd., 1910), 179.]

remarks as the soldiers pushed the play thing out of the hangar. (See Fig. 2.3.) However, a hush fell over the crowd, and they stood transfixed as Sedov strode up to his machine in spotless gray overalls at precisely 5:00 P.M. He turned his cap backwards, donned his goggles, took his seat in front of the motor and cycled the controls. Since the Farman had no brakes, eight soldier volunteers held the craft in place as Sedov started the motor and advanced the throttle. All sixty-three horsepower strained as the plane lumbered across the grass. At last the strange *ptitsa* (bird) leapt into the air and began Russia's conquest of Far Eastern skies.⁷⁹

According to quotations from the *Dal'nevostochnoe obozrenie* (Far Eastern Review), the crowd was in a frenzy. Sedov's ascent drew cheers of "Hurrah!" by a chorus of thousands who stood on their feet and joined in the assault of the air with service caps, fur hats, derby hats and brimmed caps. To bask in his long-awaited glory, Sedov cut the engine after three circuits and glided down smoothly to a flawless landing in front of the grandstand. Amidst the cheers, the governor of the Primorskaia Oblast presented Sedov with a gold medallion as the first aviator in the Far East.⁸⁰

Sedov proved a good showman and delighted the crowd with a second flight to go higher. He climbed up to approximately 500 meters (1,640 feet) and enjoyed the view as he flew over *Svetlanskaia* (Blossom) Street, the city's main thoroughfare. Though the evening panorama of Golden Horn Bay beckoned, Sedov resisted the temptation to fly

⁷⁹ Kravets.

⁸⁰ Ibid.; Suvorov.

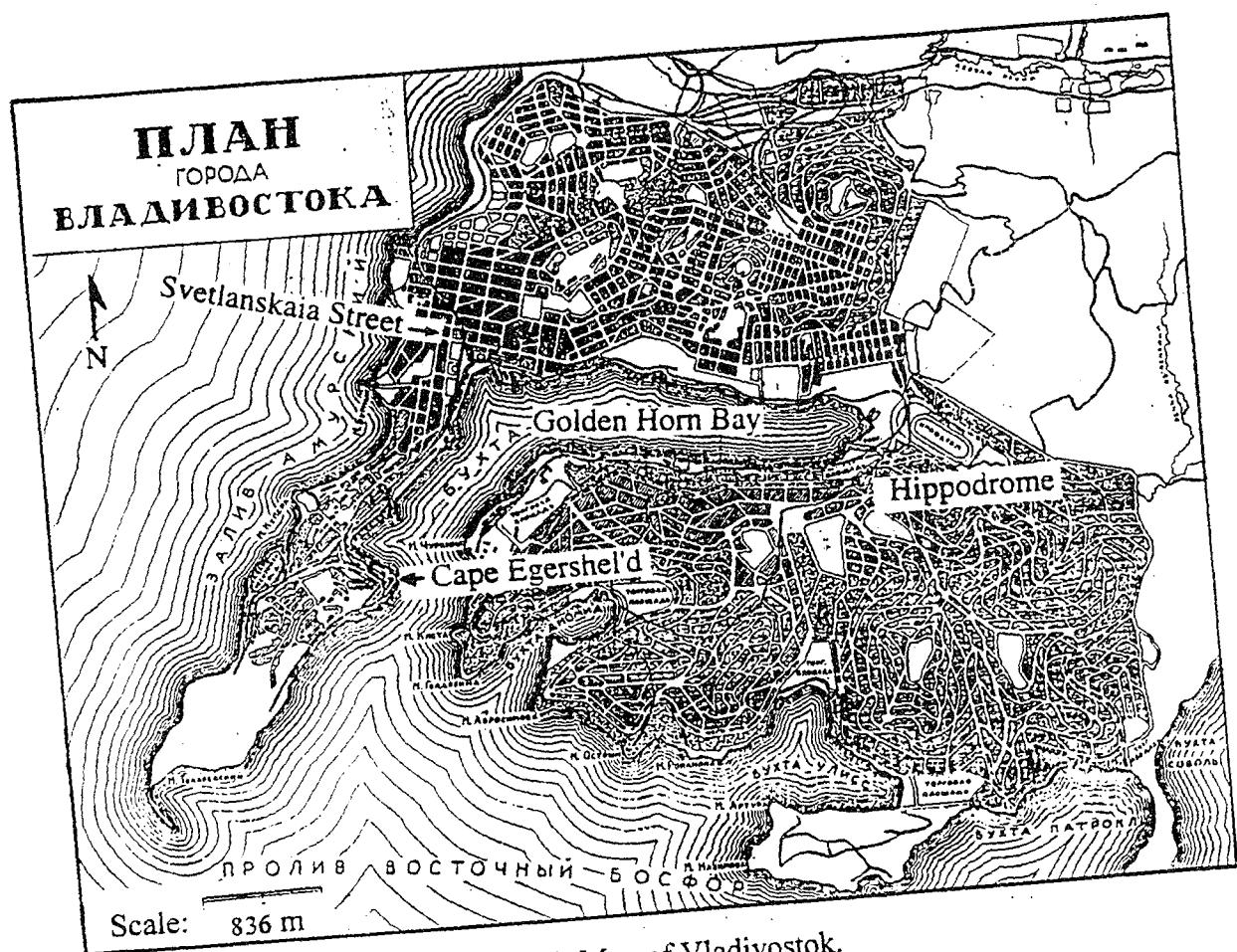


Fig. 2.4. Map of Vladivostok.
[Sibirskaia sovetskaia entsiklopediia, 1929-1932, s.v. "Vladivostok."]

farther and disobey orders. (See Fig. 2.4.) The bitter lessons of the Russo-Japanese War taught Russia the cost of complacency. Thus, the local commander of Fortress Vladivostok imposed limitations even on Sedov's inaugural flight. The military forbade Sedov to make any flights over the fort. Moreover, they prohibited him from taking any foreign citizens up as passengers. After his initial demonstration flights, Sedov made two more sorties with a passenger each time.

Rather than risking the lives of officers, the garrison had Sedov take up two senior enlisted sailors: one was a member of the deep sea-diving section and the second passenger was a mine-laying specialist of the fleet.⁸¹ Hence, as with the first balloon, so also with the first aircraft--military concerns assumed priority in Far Eastern skies. This pattern became further entrenched as both antipathy with Japan and aviation grew in the Far East.

Before continuing, the lives of Efimov and Sedov deserve our attention. Sedov's friend and sponsor, Mikhail Nikiforovich Efimov continued teaching at Sevastopol. During the October Revolution, he joined the Bolsheviks and began flight instruction at Kazan. During the Russian Civil War, White forces captured and executed Efimov at Odessa in 1919.⁸² Sedov was more fortunate.

The day after Sedov's 1911 exposition, the press hailed him for "capably taking the honor of subduing the aerial elements." Such hyperbole did not inflate his ego. Unlike the

⁸¹ Smeian, 4; Suvorov.

⁸² MERSH, s.v. "Efimov, Mikhail Nikiforovich."

more flamboyant pilots of the day, Sedov flew with discipline and did not engage in reckless, daredevil stunts. He also dressed simply and did not like rowdy drinking parties.

Such moderation gave Sedov a long life. Upon return from the Far East, he served as a test pilot for a hydroplane factory in St. Petersburg. During the Russian Civil War, he ferried aircraft to squadrons of the Red Army. He remained unscathed only to partially lose his vision in an accident in 1923. However, Sedov stayed active in aviation. During World War II, he moved from Leningrad to Novosibirsk and worked for the aircraft factory there named after Valerii Pavlovich Chkalov, a famous Soviet arctic pilot. Sedov received several awards and honors including the title "Outstanding Aviator of Industry." Iakov Ivanovich Sedov left behind a son and grandson when he died in Leningrad in 1964. He was the first of many Russian pilots to traverse Far Eastern skies.⁸³

Other Tsarist Aircraft in the Far East

Stepping back, one finds that while Sedov had his moment in the sun, Vladivostok resident and aeroclub member P. A. Strel'nikov was attending military flight school in Sevastopol. He returned to Vladivostok in June 1912 with another young military pilot, Aleksandr Aleksandrovich Kuz'minskii, a grand nephew of Lev Nikolaevich Tolstoi. They each brought along their own French-built Bleriot XI aircraft.⁸⁴ Soon thereafter, Strel'nikov, in cooperation with the Vladivostok aeroclub, established the first flight school in the Far East. He used the aeroclub's only airplane, named in honor of fallen

⁸³ Smeian, 4-5.

⁸⁴ Avgustovskii, 3; Danilenko, "Pervii polet v nebe Dalnego Vostoka," Suvorovskii natisk, 11 Mar. 1992, 6; Rosenfel'd, 4.

Russian aviator Lev Makarovich Matsievich.⁸⁵ Strel'nikov soon trained and certified six student pilots in a course of practical basics.⁸⁶ While Strel'nikov tutored new pilots, his travel companion, Kuz'minskii, pursued a more ambitious itinerary.

For Aleksandr Kuz'minskii, Vladivostok was but one of several stops on his grand tour. While in a French hospital recovering from a crash that killed his instructor pilot, Kuz'minskii conceived of making aerial demonstrations throughout the Far East and Southeast Asia. Early in the spring of 1912, he departed St. Petersburg by rail with a new aircraft personally given to him by Louis Bleriot. Following the Trans-Siberian Railway, he repeatedly uncrated his airplane to fly over eighteen Russian cities. His stops included Blagoveshchensk, Khabarovsk (his was the city's first flight on 23 August 1912), and Vladivostok. He then followed the Chinese Eastern Railway and made demonstrations at Harbin, Mukden (Shenyang), Tientsin (Tianjin), and Peking. In 1913, he and his plane continued by steamship to Macao (Macau), Saigon, Cambodia and Java with a final stop in Sumatra. In all, he made 150 flights in his "trustworthy" Bleriot between 1912 and 1913. After Sumatra, Kuz'minskii steamed to France where Louis Bleriot presented him with a new aircraft. During World War I, Kuz'minskii stayed busy with aviation outside Russia.⁸⁷ In 1922, he accepted the Soviet government's invitation to return to his native land and instruct pilots. He served in that capacity until his death in 1930.⁸⁸

⁸⁵ He was Russia's first pilot to die in flight on 24 September 1910. This made him an instant national aviation 'saint.' Scott W. Palmer, "On Wings of Courage: Public 'Air Mindedness' and National Identity in Late Imperial Russia," *The Russian Review* 54 (Apr. 1995): 209.

⁸⁶ Suvorov.

⁸⁷ Danilenko, "Pervii polet," 6.

⁸⁸ *Ibid.*

While Kuz'minskii dazzled crowds abroad, a few additional military pilots came to the Far East in 1912. They formed the first heavier-than-air military unit at the village of Spassk 150 kilometers (95 miles) northeast of Vladivostok. By 1917, Tsarist Russia had quietly built Spassk into an extensive airfield complex complete with "wide plane sheds and a colossal balloon hangar that dwarfed the size of every other building in its vicinity."⁸⁹ Removed from the vulnerable coastline, the field nestled in between mountains, high hills, and marshland for effective defense. In 1918, Sylvian G. Kindall, an American Army lieutenant at Spassk, remarked how Russia obviously built this field anticipating a second conflict with Japan.⁹⁰ That prediction came true, but, as noted earlier, Europe was the priority before 1914, and aviation investment in the Far East was still rather modest.

Along with the squadron at Spassk, a three-plane detachment located at Vladivostok's *Vtoraia Rechka* (Second River) district formed under the leadership of Staff-Captain Nikiforov (first name unknown) in 1912. He completed a 185 kilometer (110 mile) flight from Spassk to Vladivostok via Ussuriisk in fifty-three minutes. That flight demonstrated the effectiveness of their primary function--maintaining liaison between garrisons.⁹¹ That peacetime mission carried plenty of risks, and as one local paper of the time summarized, "Long duration flights often take place . . . and . . . frequently, catastrophes occur."⁹² Risks aside, the close relationship between civilian enthusiasts and military aviation continued thanks to the Imperial All-Russian Aeroclub.

⁸⁹ Sylvian G. Kindall, American Soldiers in Siberia (New York, NY: Richard R. Smith, 1945), 22.

⁹⁰ Ibid., 22.

⁹¹ Filatov, 9.

⁹² Suvorov.

Membership swelled in Vladivostok's aeroclub chapter, and 1913 proved a special year for its activities. In commemoration of the 300th year of Romanov rule and the thirtieth anniversary of Mozhaiskii's "leap into the future," the club members made extensive, festive arrangements for an aviation holiday. Brass bands thundered out scores from the Admiral's garden on Nevel'skoi Boulevard while crowds flocked to behold performances by scale models of the latest aircraft. Among the replicas exhibited were French Bleriots, Farmans, and Voysins. Models of Russian designs also gave demonstrations. These included Rossiia, Aviatik, and Sikorskii's famous *Russkii vitaz* (Russian Knight), a four-engine, four-ton mammoth that first flew in 1913.⁹³ The festivities culminated in a demonstration of two full-size aircraft that conducted the first formation flight over Russia's Far Eastern skies. The whole occasion was a success, and the donations collected for further development of aeronautical work "surpassed all expectations."⁹⁴ Those funds soon went to good use during Russia's respite with Japan.

At a very early point, the Russians pushed the limits of aviation technology to help unite the Far East with European Russia. From 1910-1915, the crews of the newly constructed ice breakers *Taimyr* and *Vaigach* conducted an extensive hydrographic expedition along the Northern Sea Route. Originating in Arkhangelsk, they made several arctic passages and geographic discoveries.⁹⁵ After refitting, they departed Vladivostok in the summer of 1914 with a new crewmember, military pilot I. I. Nagurskii, on board. He made Russia's first flights over arctic waters that year while helping the ships negotiate

⁹³ Terry Gwynn-Jones, "Farther: The Quest for Distance," in *Milestones of Aviation*, ed. John T. Greenwood (New York, NY: MacMillan Publishing, Co., 1989), 25.

⁹⁴ Filatov, 9.

⁹⁵ GSE, 1974 ed., s.v. "Arctic History of Exploration."

the maze of ice floes along the Northern Sea Route.⁹⁶ Nagurskii's compatriots in Spassk and Vladivostok soon made a westward migration as well. When Germany declared war against Russia that August, they took all remaining aircraft and personnel with them to Europe's front lines.⁹⁷

Civil War, Intervention and the Return of Aircraft

Because of World War I, Russia stripped the Far East of all operational aircraft (according to sources consulted so far) between 1914 and the start of civil war in 1917 to bolster their western forces. This typified Russia's vulnerability *vis-à-vis* Japan while it grappled with the tumult of the European conflict, revolution and civil war. As mentioned earlier, soon after the Portsmouth Treaty (1905), Japan cooperated with Russia and had also made extensive investment in the Far East. Thus, when the Bolsheviks renounced all tsarist obligations in late 1917, Japan soon tried both to protect its interests and to take advantage of Russia's weak position.⁹⁸ Moreover, until 1925, Japan actively intimidated Russia. The Japanese navy escorted Japanese fishing boats into Russian waters, cut the tow ropes of Soviet patrol boats arresting poachers, and harassed Russian ships sailing by the Kuril Islands. Japanese pillaging of Kamchatka villages bred further distrust and circumspection on the Soviets' part.⁹⁹ Military aviation in the Far East grew accordingly, and this process started during the Siberian Intervention.

⁹⁶ Ibid., s.v. "Taimyr;" Kravets.

⁹⁷ Mikhail Efimovich Chevychelov, Tikhookeanskie sokoly (Vladivostok: Dal'nevostochnoe knizhnoe izdatel'stvo, 1984), 9; Rosenfel'd, 4.

⁹⁸ MERSH, s.v. "Japanese-Russian Relations," by George Alexander Lensen; John J. Stephan, The Russian Far East, 127.

⁹⁹ John J. Stephan, The Kuril Islands: Russo-Japanese Frontier in the Pacific (Oxford: Clarendon Press, 1974), 130.

During the Intervention and Russian Civil War, foreign expeditionary forces, White Russian pilots, Russian warlords, and revolutionary bands all made sporadic use of aircraft as they vied for control throughout the Far East.¹⁰⁰ Forces on all sides depended heavily upon railroads to move aircraft and ground equipment to areas of conflict. Regardless of allegiances, pilots primarily conducted courier duties and reconnaissance of enemy ground movement. Isolated incidents of air-to-ground attack did occur, but, due to the immense spaces and sparse numbers of aircraft involved, dogfights were rare, if ever, in the Far East.¹⁰¹ Moreover, withdrawing forces typically destroyed their aircraft in their retreat, and persistent maintenance problems grounded many captured airplanes.¹⁰²

Among the more interesting accounts reflecting the revolutionary chaos of the Far East is that of Alexander Riaboff. This Tsarist military pilot graduated from Gatchina in 1917 during the provisional Kerenskii regime. He flew for a short time at Odessa before being swept into the fledgling Red Air Force. In May 1918 he flew for the Reds in the key Battle of Kazan on the Volga River.¹⁰³ Under continuous suspicion by Bolshevik commissars and disillusioned with their conduct, he defected in his French Nieuport-17 in August 1918 while ostensibly on a routine mission. He landed to join the White forces under Admiral Kolchak and advanced with them until they lost Omsk in November 1919. From there, he and his air unit continued operations amidst the confusion of their

¹⁰⁰ Chevychelov, 10; Kilmarx, 60; Katsu Kohri, Ikuo Komori, and Ichiro Naito, comps., The Fifty Years of Japanese Aviation: 1910-1960, vol. 1, trans. Kazuo Ohyauchi (Tokyo: Kantosha Co., Ltd., 1961), 20, 25.

¹⁰¹ Whiting, Soviet Air Power, 7.

¹⁰² Marion Aten and Arthur Ormont, Last Train over Rostov Bridge (New York, NY: Julian Messner, Inc., 1961), 320; Alexander Riaboff, Gatchina Days: Reminiscences of a Russian Pilot, ed. Von Hardesty (Washington, DC: Smithsonian Institution Press, 1986), 73 and passim; Stephan, Russian Far East, 150.

¹⁰³ Riaboff, 89.

eastward retreat along the Trans-Siberian Railway. Amazingly, his flight received new French Nieuport fighters in January 1920 while attached to Grigorii Mikhailovich Semenov's Japanese-sponsored, counterrevolutionary forces in the Transbaikal region.¹⁰⁴ Nevertheless, he and others abandoned these new machines at Chita in September 1920. Disillusioned and disgusted with Semenov's brutality, Riaboff went into exile in Harbin, Manchuria with his wife Sofia D. Nikitina, a nurse whom he had met in 1919 at Omsk. They eventually emigrated to San Francisco.¹⁰⁵

While Riaboff and the rest of Russia struggled between several competing derivations of Red and White rule, interventionist forces entered eastern Siberia starting in August 1918, and Japan led the way. Before withdrawing (1920-22) a total of 72,000 Japanese, 9,000 Americans and over 88,000 troops from nine other nations occupied the Far East. While most of these forces congregated around Vladivostok, Japan penetrated throughout with garrisons at Chita, Khabarovsk, Nikolaevsk, Suchan and Olga.¹⁰⁶

Along with its massive, ground force, Japan also deployed aircraft into the Far East. A two-seat Sopwith 1 'Modif' biplane (purchased from Britain for 500,000 yen) arrived just in time for Japan's initial landing in August 1918. After the 'Modif,' Japan received fifty Sopwith 'PUP' fighters in 1919, "some" of which Japanese writers say went to Siberia.¹⁰⁷ As mentioned earlier, some of these and other French aircraft models transferred to the Transbaikal area and augmented the Cossack band of Grigorii Semenov.

¹⁰⁴ Ibid., 113, 165; Kilmarx, 60.

¹⁰⁵ Riaboff, 179.

¹⁰⁶ Stephan, The Russian Far East, 132.

¹⁰⁷ Kohri, 22, 25.

In December 1920, he reportedly fled across the border to Manchurian sanctuary in one of these aircraft.¹⁰⁸ American use of aircraft also had mixed results.

In 1918, American forces revived operations at the Spassk airfield with five obsolete Farman biplanes shipped from the Philippines. The new White Russian Siberian Army also set up an air service headquarters there. Equipped with one old Farman pusher aircraft, two monoplane scouts, and two inoperable Nieuport fighters, a staff of twelve Russian pilots and about fifty mechanics received training from the Americans.¹⁰⁹ Apparently, political indoctrination was not a strong suit of the American cadre, and many of the Russians at the Spassk aviation school became revolution supporters.¹¹⁰ When the Americans withdrew, the Spassk aviators had greater latitude to aid Red partisan bands. Consequently, pilot Naideov (first name unknown) organized the first Revolutionary Air Detachment at the Spassk school in 1920.¹¹¹

This confirms aviation scholar, Robert A. Kilmarx's assertion that overall Red air activity remained inconsequential in the Far East until 1920. Admiral Kolchak's defeat in the Urals (Fall 1919), the withdrawal of interventionist forces from along the Trans-Siberian Railroad, and American withdrawal by April 1920 opened the way for Red air operations against the remaining White and Japanese forces. With each evacuation, Red partisans accumulated valuable abandoned material, including aircraft.¹¹²

¹⁰⁸ Kilmarx, 60.

¹⁰⁹ Kilmarx, 60; Chevychelov, 8.

¹¹⁰ Chevychelov, 9.

¹¹¹ Chevychelov, 8.

¹¹² Kilmarx, 59-60.

As foreign expeditionary forces evaporated, Red bands used military aviation to help tighten their pocketed hold over the Far East. According to western and Soviet sources, the aerial activity (dropping propaganda leaflets, strafing attacks or even stealing Japanese aircraft) of the National Revolutionary Army (NRA) in the Transbaikal, Khabarovsk, and Vladivostok areas effectively harassed Japanese troops. The Soviet source also claims their activity was enough to warrant several special military conferences in Tokyo during 1920 to discuss ways of fighting the Bolshevik air forces.¹¹³

Such a quote glosses over the actual lack of unity amongst partisan forces as well as, Japan's motivation to pull out of the Far East. While Moscow "recognized" the sham Far Eastern Republic (the FER officially lasted from 14 May 1920 to 15 November 1922), as many as five "governments" established partial or overlapping jurisdiction within the Far East. This de facto lack of control enabled the FER to dodge importune Japanese requests for unrestrained access to the Far East's natural wealth.¹¹⁴ Thus, neither force nor diplomacy could achieve Japanese designs. Along with increasingly stiff partisan resistance on the ground, intense diplomatic pressure by the United States convinced Japan to withdraw its troops from the Russian mainland by 25 October 1922.¹¹⁵ Within hours of the last Japanese departure, NRA forces stormed into Vladivostok to tighten Bolshevik control over the Far East.¹¹⁶ Among those partisans was Nikolai Mikhailovich

¹¹³ Chevychelov, 10; Kilmarx, 60.

¹¹⁴ Stephan, The Russian Far East, 146, 149.

¹¹⁵ Betty Miller Unterberger, America's Siberian Expedition, 1918-1920 (Durham, NC: Duke University Press, 1956), 200-203, 234.

¹¹⁶ Stephan, The Russian Far East, 154.

Brogin, the first commander of the Air Fleet of the Far Eastern Republic.¹¹⁷ Much like his naval counterpart, Brogin had no real 'air fleet' to command.¹¹⁸

¹¹⁷ Kravets.

¹¹⁸ Stephan, The Russian Far East, 186.

CHAPTER 3

MILITARY AVIATION'S BUILDUP IN THE FAR EAST

Along with a shattered economy and a ragged air force, the new Bolshevik regime also inherited the enormous task of defending the Far East. Its distance from "the center" magnified three things endemic to the region: problems of fortification, Moscow's perceptions of threat and Tokyo's perceptions of vulnerability.¹¹⁹ Mutual distrust soon prompted a military buildup that gained a momentum of its own and perpetuated Russia's isolationist tradition.

The "Ultimatum" Squadron and Initial Soviet Circumspection toward Japan

From the previous chapter, we know that Nikolai Brogin needed aircraft for his command. Remnants of White Russian diehards persisted and Japanese troops still occupied North Sakhalin. In fact, Japanese troops remained there until 1925, when Moscow and Tokyo normalized relations in exchange for oil concessions to Japan.¹²⁰ These holdouts and experiences from the "imperialist" intervention made an enduring impression on the Far East's public psyche and its approach to aviation. Military expediency assumed priority, and civil aviation remained a byword in the Far East.

At great sacrifice, Far Easterners purchased an 'air fleet' for Brogin's command. Four years of civil war and intervention ruined the Far East's economy, particularly in the

¹¹⁹ "The center" is the common Russian expression for Moscow.

¹²⁰ Stephan, The Russian Far East, 165-66.

Primorye and Priamur. Destroyed crops and food supplies led to subsistence living. Almost half of the area's farmland lay fallow and over half its livestock had been slaughtered. Outside relief was slow in coming, too, because war had also devastated railroad and shipping capabilities. Moreover, the region's gold output languished at a tenth of prewar levels.¹²¹ In spite of the privations that must have existed in 1923, Far Easterners "voluntarily," and quite rapidly, mustered gold rubles to finance the first true Soviet military aviation unit in the Far East, the "Ultimatum" Squadron.

On 8 May 1923, Britain's High Minister of Foreign Affairs, Lord Curzon, issued a widely published 'ultimatum' to the newly formed (1922) Union of Soviet Socialist Republics that now officially included the Far East. Among other demands, he gave the Soviets ten days to withdraw pending trials against Orthodox priests, release detained British fishing trawlers and crews, and recall Soviet representatives in Persia, Afghanistan and India. The alternative was to terminate the experiment of Britain's trade agreement with the new Soviet regime. The Soviets complied with all but the removal of its Central Asian representatives. Moscow's wounded pride found consolation by raising a fist of defiance eight time zones away.¹²² By using Curzon's 'ultimatum' as a rallying cry, Moscow also began to assert its control over the Far East's aviation without directly challenging Japan. Thus, Curzon's 'ultimatum' provided a convenient slogan for the Soviets.

¹²¹ Ibid., 63.

¹²² Sir Curtis Keeble, Britain and the Soviet Union, 1917-89 (New York, NY: St. Martin's Press, 1990), 91-93.

Earlier on 8 March 1923, Moscow resurrected the All-Russian Aero Club with the new title, Society of Friends of the Air Fleet (ODVF). By 1927, this organization merged with the Society of Friends of Chemical Defense and Industry (formed in 1924), and the Society for the Promotion of Defense to form the *Osoaviakhim* of the USSR (Association of Societies for the Promotion of Defense and Aero-Chemical Development).¹²³ Organizational permutations aside, on 16 April 1923, the ODVF formed a local section in Vladivostok. The chapter's first president, Ivan Kozhanov (later a well-known commander in the Far Eastern Naval Force) and his staff used creative means to generate funds and build the "Ultimatum" Squadron.¹²⁴

Using one of the few operational aircraft left in the Far East, the ODVF organized an "agitation-propaganda" flight between Vladivostok and Spassk to generate public contributions. The day before the flight, the post office made a special announcement. For one day only, it would issue a special series stamp authorized by the Special Regional Installment of the Far Eastern Oblast Revolutionary Committee of the RSFSR. The flight and its cargo made it safely to Spassk in record time on 29 July 1923. According to Soviet Philatelist Society member Iu. Natalkin, the post office used central Russian stamps issued between 1909 and 1917 as well as a run of Siberian stamps issued between 1919 and 1920. Using lithographic techniques, the post office imprinted an image of an airplane with the inscription "Vladivostok, 1923, 20 Kopeks." Natalkin adds that these

¹²³ Kilmarx, 93-94.

¹²⁴ Chevychelov, 10.

are some of the most rare airmail stamps in the world. They certainly must be, because regular civil air mail delivery did not resume in the Far East for another seven years.¹²⁵

Along with the airmail fund-raiser to Spassk, the ODVF published solicitations in the local newspaper *Krasnoe znamia* (Red Banner). The articles urged Primorye residents with admonitions to fulfill their duty. Public statements exhorted, "Let us contribute (our) earned kopeks to build a mighty airfleet . . . to the fear of our enemies, but to the joy of our foreign friends." Each day the Red Banner published individual names and the amount of their contributions along with "challenges by individuals" to match funds.¹²⁶ This mix of xenophobia and peer pressure proved effective, and, by August 1923, the Far Eastern ODVF collected 60,000 gold rubles (another source states 80,000 gold rubles) to buy five aircraft.¹²⁷

The purchase funds filtered to Moscow through Chita, and by August 1924, the "Ultimatum" Squadron guarded the skies of the Far East "against foreign provocateurs." All five aircraft had a clenched fist and the abrasive inscription, "*N-n-na*," painted on their side.¹²⁸ Each aircraft also had a personal title. The names included: "Workers of the Primorye," "Red Vladivostok," "Suchanskii miner," and "Far Eastern Workers." Neither Soviet source consulted gave the fifth aircraft's name.¹²⁹ Monikers aside, according to an

¹²⁵ Iu. Natalkin, "Pervaia aviapočta," *Krasnoe znamia*, 25 Apr. 1981, *.

¹²⁶ V. Tomov, "Eskadrič'ia Ultimatum," *Krasnoe znamia*, 18 Nov. 1977, *.

¹²⁷ Chevchelov, 13; Tomov.

¹²⁸ This is a common, shortened expression for "*Na voz'mi!*" which translates to approximately "Take that!" Amir Khisamutdinov, conversation with author, Honolulu, Hawaii, 22 May 1996.

¹²⁹ Chevchelov, 12; Filatov, 9.

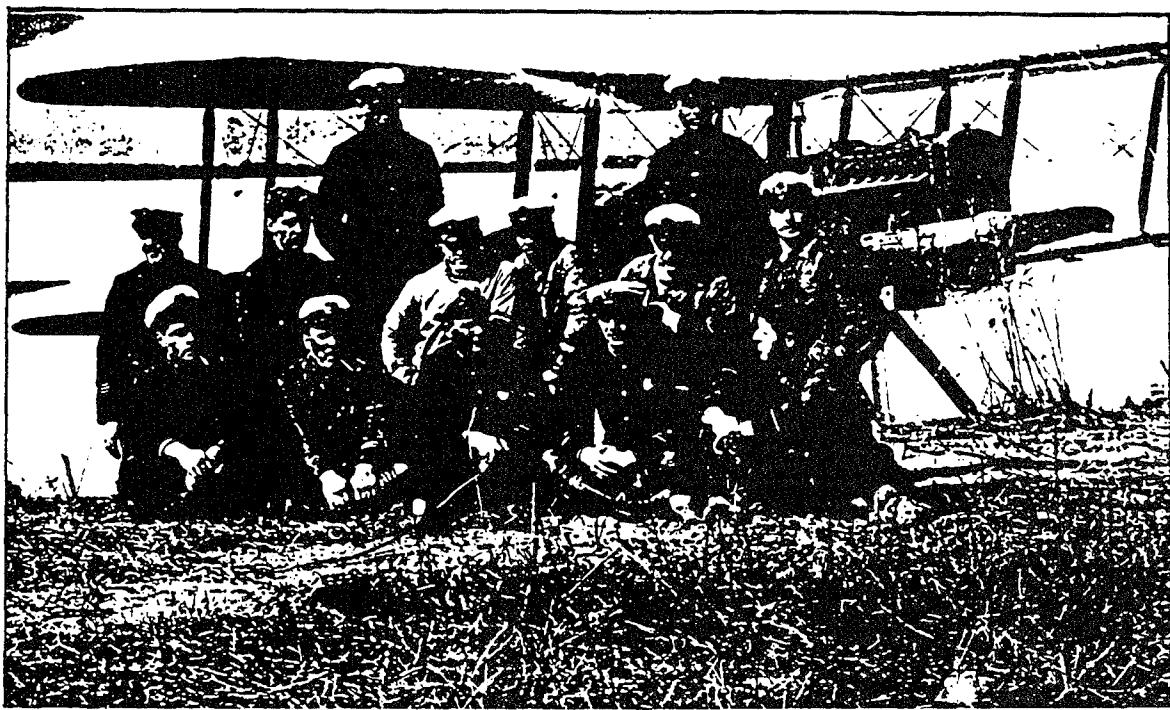


Fig. 3.1. The first Soviet pilot class in the Far East in front of an MR-1 seaplane.

Eduard Lukht is seated in center.

[Courtesy of M. E. Chevychelov]



Fig. 3.2. E. M. Lukht as squadron commander circa 1928.

[Mikhail Efimovich Chevychelov, *Tikhookeanskie Sokoly*
(Vladivostok: Dal'nevostochnoe knizhnoe izdatel'stvo, 1984), 130.]

interview with Russian author Mikhail Efimovich Chevychelov, a former pilot and military journalist for the Soviet Pacific Fleet, these first aircraft were MR-1s.¹³⁰

The MR-1 reconnaissance seaplane was a version of the Tupolev R-1 first produced in 1924.¹³¹ As one of the first Soviet-produced aircraft, the MR-1 was an unsophisticated, cloth-wing biplane with a water-cooled engine. During ground attack raids against White Russian holdouts, the pilots had to arm the bomb fuses in the cockpit before heaving them overboard. Such crude measures show how determined the new regime was in using those five aircraft to help "liquidate (remnants of) the (Civil War's) aftermath" in the Far East. These aircraft also served as trainers for the first pilot course initiated by the ODVF in Vladivostok in November 1925.¹³²

Among that first class was Eduard Martynovich Lukht. (See Figs. 3.1 and 3.2.) In 1927 he received the order of the Red Banner for being the first Soviet pilot to land on Wrangel Island, which the Soviets forcibly seized from a handful of Eskimos in 1924.¹³³ His flight from Cape Shmidt to the island was part of an expedition organized by Osoaviakhim. The steamship *Kolyma* carried his and one other aircraft aboard while sailing between Vladivostok and the mouth of the Lena River.¹³⁴ That same year, Lukht took command of the first seaplane detachment of the Amur Flotilla. Two years later, in

¹³⁰ Mikhail Efimovich Chevychelov, interview by author, Vladivostok, Russia, 27 June 1995.

¹³¹ John A. Parker, ed., The Soviet Aircraft Industry (Chapel Hill, NC: Institute for Research in Social Science, 1955), 43.

¹³² Chevychelov, 13.

¹³³ Stephan, The Russian Far East, 162.

¹³⁴ Whiting, "Soviet Civil and Paramilitary Air Power," 580.

1929, that and other Soviet units' combined actions along the Sungari River raised the ante with Japan.¹³⁵

In preparation for battle and other military contingencies, Far Easterners continued to sacrifice earnings to bolster their military air fleet. Between 1926 and 1928, the ODVF/Osoaviakhim collected enough funds to purchase 223 aircraft. The toll was particularly burdensome on Vladivostok residents who alone contributed 300,000 rubles between 1923 and 1928.¹³⁶ Apparently, Moscow diverted most of those funds. According to Japanese estimates, the Far East did not have more than 100 aircraft until 1932.¹³⁷ In spite of such siphoning by the central government, the Far East's troop strength and air power grew enough to concern Japan. Lack of airfields made seaplanes the weapon of choice, and, along with homespun MR-1s, the Far East purchased a collection of German Fokker D. XIIs, Dornier-Wal flying boats, Italian Savoia-16s, British Martinside F-4s, and De Havilland DH-14s.¹³⁸ Between 1925 and 1929, small six to eight plane units of the "Ultimatum" Squadron patrolled Chita, Blagoveshchensk, and Spassk, with Vladivostok hosting the largest concentration of airframes.¹³⁹ By 1929, the

¹³⁵ Chevychelov, 18.

¹³⁶ Estimating a per capita impact is rather difficult. Total population in the Far East (excluding prisoners, Transbaikalia, and Yakutia) in 1923 was 1,087,600 and 1,281,000 in 1926. The earliest date available for average Soviet wages (according to sources consulted) was 1928; in that year, average annual pay was 703 rubles. Realize that by 1928, the Far East's economy had recovered to pre-revolution levels, and the conditions in 1923 were considerably worse. Moreover, it is plausible to suggest that collection drives concentrated on urban residents thus making the contributions more severe on individual budgets. Janet G. Chapman, Real Wages in Soviet Russia Since 1928 (Santa Monica, CA: RAND, Oct. 1963) R-371-PR, 109; Stephan, The Russian Far East, 163-167, Appendix B; Chevychelov, 12.

¹³⁷ Kilmarx, 84.

¹³⁸ Alexander Boyd, The Soviet Air Force Since 1918 (New York: Stein and Day, 1977), 8; Chevychelov, 13.

¹³⁹ Ibid.; "Distribution of Special Independent Air Squadrons, 11 April 1927," in U.S. Military Intelligence Reports: The Soviet Union 1919-1941 (Frederick, MD: University Publications of America, Inc., 1984), reel 6, frame 119, microfilm.

collage of operational aircraft in the Far East totaled approximately seventy aircraft.¹⁴⁰

The Far East Military took other initiatives to augment this aviation capacity.

In the Fall of 1928, engineer A. I. Kilessa and his staff converted the river gunboat *Vicar* into a seaplane "aircraft carrier" appropriately christened the *Amur*. Its shallow draft, on-board workshops, and aircrew living quarters made it ideal for patrolling the Amur River and coastal waters. According to Mr. Chevychelov, the Amur Military Flotilla with its aircraft carrier and complement of fourteen MR-1s under Lukht's leadership became one of the most effective units in "repelling foreign aggressors" from the Far East.¹⁴¹ This unit became part of a greater force the following year.

A Show of Strength

In July 1929, the Soviets severed diplomatic relations with Peking (one of China's two governments at the time) primarily to assert ownership over the Chinese Eastern Railway (CER).¹⁴² The Soviets were unwilling to follow through with their magnanimous-sounding 1919 Karakhan Declaration that "renounced all Russian concessions in China." Moreover, they had retained joint ownership of this strategic railway since 1924.¹⁴³ When Manchurian warlord Zhang Xueliang and residual White Forces tried to deny Soviet control over the CER in 1929, the Soviets replied by force.¹⁴⁴

On 6 August 1929, Moscow's Revolutionary Military Council appointed seasoned combat veteran, Vasilii Konstantinovich Bliukher, to command the new Special Red-

¹⁴⁰ Tang, 219-220.

¹⁴¹ Chevychelov, 15.

¹⁴² Tang, 218.

¹⁴³ Victor A. Yakhontoff, Russia and the Soviet Union in the Far East (New York: Coward-McCann, 1931), 385; Stephan, The Russian Far East, 182.

¹⁴⁴ Ibid..

Bannered Far Eastern Army (OKDVA).¹⁴⁵ Albert Yanovich Lapin served as Bliukher's deputy and later gained the title of OKDVA Air Commander in 1931.¹⁴⁶ Under Bliukher's command, the OKDVA initially consisted of two army corps--three rifle divisions, one cavalry brigade and thirty-two to thirty-five airplanes each. To augment his core cadre of 30,000 regulars, Bliukher assembled a multi-ethnic force for a total strength of 113,000 men.¹⁴⁷ Thus, in response to Zhang's actions and supposed Chinese assaults on Russian villages, Bliukher's forces launched an attack. The OKDVA's campaign stretched along a 500 mile front in Manchuria, and it lasted from October to December 1929.¹⁴⁸

Soviet seaplanes and land-based aircraft assisted infantry and artillery attacks. Soviet airplanes operating from a mountain aerodrome near Abagaytuy (near the border juncture of the Soviet Union, Mongolia, and China) bombed Manzhouli and other settlements along the CER into western Manchuria.¹⁴⁹ The Amur Military Flotilla and its twenty-three aircraft (Fokker D.XI fighters and MR-1 seaplanes used as bombers) attacked eastern Manchuria. Thereby, Lukht's command assisted in the destruction of the local Chinese flotilla and the overpowering of Chinese forces along the Sungari River up to Fuchin (present-day Fujin).¹⁵⁰ As a result, the Chinese government signed an agreement on 22 December 1929 that restored Soviet control over the railway.¹⁵¹ Although, Tokyo had acquiesced to this attack beforehand, Japan apparently took this relatively minor

¹⁴⁵ Tang, 219.

¹⁴⁶ Boyd, 83; Stephan, The Russian Far East, 151.

¹⁴⁷ Ibid., 182; Tang, 219-220.

¹⁴⁸ Chevychelov, 18; Stephan, The Russian Far East, 182; Tang, 219-267.

¹⁴⁹ Ibid., 226.

¹⁵⁰ Boyd, 8; Chevychelov, 18.

¹⁵¹ Ibid., 19; Stephan, The Russian Far East, 182.

skirmish as a warning to safeguard her mainland interests.¹⁵² This set the stage for ten years of tense stalemate that accelerated fortification of the Far East with a particular emphasis on aviation.

The Manchurian Incident (Competition with Japan)

Starting in September 1931, Japanese forces systematically conquered Manchuria converting it into the puppet state of Manchukuo by April 1932. Japan's refusal to sign a non-aggression treaty offered by Moscow in December 1931 confirmed Soviet fears.¹⁵³ In early 1933, the Soviets initiated appeasement efforts by offering to sell the CER to Japan. Even though it had de facto control by April 1932, Tokyo drew out the negotiations until 1935, and it concluded a transfer for a fraction of the railroad's initial investment.¹⁵⁴ This and Japan's Manchurian incursion steeled Soviet resolve to build up a Far East bastion.

Between 1931 and the signing of the 13 April 1941 Soviet-Japanese Neutrality Pact, Japan and the Soviet Union raced each other to establish a military advantage along the Far Eastern Front. According to one Russian estimate, between 1931 and 1937 the Kwantung Army built more than 200 airbases in Manchuria.¹⁵⁵ Because of the northward bulge in Manchuria's border, the Japanese military also enjoyed the advantage of interior lines.¹⁵⁶ On the other side of the border, the Soviets faced a tremendous logistical hurdle

¹⁵² Ibid.; Tang, 237-238.

¹⁵³ Jonathan Haslam, The Soviet Union the Threat from the East, 1933-41 (Pittsburgh, PA: The University of Pittsburgh Press, 1992), 8; Harriet L. Moore, Soviet Far Eastern Policy, 1931-1945 (Princeton, NJ: Princeton University Press, 1945), 4, 8-13.

¹⁵⁴ Haslam, 11; Moore, 42-43; Stephan, The Russian Far East, 194.

¹⁵⁵ Chevychelov, 19.

¹⁵⁶ "Interior lines" occur when an army faces its opponent on more than one side. The enemy on the outside must disperse to simultaneously cover a larger perimeter, and this hampers coordination for attack. The forces on the inside can more easily achieve timely, coordinated concentration of troops by not having to be everywhere at once.

to fortify the Far East. Between 1931 and 1936, the Soviets launched a feverish effort to double-track the Trans-Siberian Railway and reduce their dependence on the CER.¹⁵⁷ Military aviation also figured high among Bliukher's priorities.¹⁵⁸

From 1932 on, the Soviets reversed previous years of neglect and steadily built up a Far Eastern garrison and air force east of Lake Baikal in spite of a strained national economy.¹⁵⁹ As mentioned earlier, up to 1931, total aviation strength in the Far East did not exceed 100 aircraft. However, by 1933, 130 Japanese aircraft in Manchuria faced between 350 to 500 Soviet aircraft based at Chita, Vladivostok, Khabarovsk, Novosibirsk, and Spassk.¹⁶⁰ By 1934, the Soviet forces boasted eighty to 160 four-engined TB-3 (also called ANT-6) heavy bombers capable of striking the Japanese mainland.¹⁶¹ "Stalin's falcons" had to fly these aircraft all the way from European Russia across Siberia to the Far East with considerable risk and difficulty. One pilot described the hazards to include an "unfamiliar flight path, insufficient airfields, and enroute weather that promised all kinds of surprises."¹⁶²

Not surprisingly, this buildup generated significant Soviet-Japanese tension, and over 2,000 armed clashes occurred between 1932 and 1941. These engagements ranged from exchange of small arms fire to full scale battles involving 100,000 troops, and hundreds

¹⁵⁷ Boyd, 84.

¹⁵⁸ MacArthur Memorial Archives. Norfolk, VA, "Japanese Estimates of Soviet Armed Forces on the Soviet-Manchuria Border 1931-45," Materials relating to Japanese intelligence operations in the Soviet Far East, 1931-45, RG 6, box 99, folio 4.

¹⁵⁹ Kilmarx, 84.

¹⁶⁰ Boyd, 84; Alvin D. Coox, Nomonhan: Japan Against Russia, 1939 (Stanford, CA: Stanford University Press, 1985), 1: 84; MacArthur.

¹⁶¹ Boyd, 84; Haslam, 28; Kilmarx, 84-86.

¹⁶² Haslam, 28.

of tanks and aircraft.¹⁶³ During this undeclared war, the first aerial engagements between Japanese forces and Soviet pilots occurred over Chinese skies.

In 1937, during the second Sino-Japanese War (1937-1945), China and the Soviet Union concluded a nonaggression pact. Shortly thereafter, (between 1937 and 1938) a "volunteer" air group of 200-500 pilots and aircraft technicians and 300-400 fighters (mostly I-15 and I-16 fighters and SB-2 light bombers) established operations at Langchow, Nanchang, Hami and elsewhere.¹⁶⁴ Overshadowing their Chinese hosts, Russia garnered combat experience against the Japanese and collected its share of "heroes." If one is to believe Soviet accounts, Hero of the Soviet Union, Ivan Gubenko's ability to "ram" seven Japanese airplanes says something about relative aircraft construction if not eyesight or availability of ammunition.¹⁶⁵

While Russian pilots gained combat experience in China (and Spain), they lost experience in other ways and soon faced larger Japanese forces along the Soviet borders. In September 1937, Albert Lapin's service record and decorations, including the Order of Lenin, did little to shield him from Stalin's paranoid "liquidation" campaign.¹⁶⁶ The terror of purges continued through 1939 and decapitated Russia's Far Eastern Forces of its experienced leadership. Overall, the purges led to splits in command, notable combat deficiencies, and Japanese willingness to probe Far Eastern perimeters.¹⁶⁷

¹⁶³ Willard Price, "Japan Faces Russia in Manchuria," National Geographic 82 (Nov. 1942), 603.

¹⁶⁴ Kilmarx, 148.

¹⁶⁵ Aleksandr Markovich Dubinsky, The Far East in the Second World War (Moscow: "Nauka" Publishing House, 1972), 36; For similar actions by other Soviet pilots, also see: Otto Preston Chaney, Zhukov (Norman, OK: University of Oklahoma Press, 1971), 164.

¹⁶⁶ Boyd, 89; Stephan, The Russian Far East, 323.

¹⁶⁷ Boyd, 88; Haslam, 113, 119.

The Kwantung Army miscalculated. What the Soviets lacked in leadership, they could more than make up in numbers by this point. Soviet Far Eastern troop presence in 1938 was over twice that of the Kwantung Army (450,000 versus 220,000). Moreover, the Soviets had almost a six-to-one (2,000 versus 340) advantage in aircraft.¹⁶⁸ The Soviets benefited from these ratios in the Battle of Lake Khasan (1938) and the Battle of Khalkhin-Gol (1939).¹⁶⁹ Aircraft operations focused primarily on close air support of ground troops, but the Soviets also held the upper hand in air to air combat.¹⁷⁰ In his memoirs, Marshal Zhukov recalled the particular value of local aerial reconnaissance to his overall success at Khalkhin-Gol.¹⁷¹ In that battle, the Soviets purportedly lost 10,000 troops compared to 25,000 by the Japanese.¹⁷²

In his summary, Alvin Coox, concludes that these two Soviet victories and the Soviet German Non-Aggression Pact (23 August 1939), sobered up the Japanese command and closed the door on further Japanese expansion to the north.¹⁷³ I would add that the engagements also entrenched an enduring Far East mindset to "keep the frontier under lock and key."¹⁷⁴

¹⁶⁸ Coox, Nomonhan, 1: 84.

¹⁶⁹ The Japanese call the Battle of Lake Khasan the Chang-ku-feng Incident: it lasted between 29 July and 11 August 1938. Stalin used this as a pretext to purge Bliukher shortly thereafter. The Japanese term for the Battle of Khalkhin-Gol is the Battle of Nomonhan. It went from 11 May to 1 September 1939, and Zhukov was now Russia's on-site commander. Stephan, The Russian Far East, 215.

¹⁷⁰ Boyd, 85-87; Kilmarx, 149.

¹⁷¹ Grigori K. Zhukov, The Memoirs of Marshal Zhukov (Moscow: Novosty Press Agency Publishing House, 1969; first English publication, London: Jonathan Cape, 1971; American edition, New York: Delacorte Press, 1971), 158.

¹⁷² MERSH, s.v. "Khalkhin-Gol, Battle of (1939)."

¹⁷³ Coox, Nomonhan, 2:1,078.

¹⁷⁴ This phrase comes from remarks by interceptor pilot, Gennady Osipovich, in defense of his actions against KAL 007 over the Sea of Japan in 1983. Stephan, The Russian Far East, 277.

Table 3.1. Soviet Armed Forces on the Soviet-Manchuria Border: Japanese Estimates

[MacArthur Memorial Archives. Norfolk, VA, "Japanese Estimates of Soviet Armed Forces on the Soviet-Manchuria Border 1931-45," Materials relating to Japanese intelligence operations in the Soviet Far East, 1931-45, RG 6, box 99, folio 4.]

<u>Year</u>	<u>Planes</u>	<u>Infantry</u>	<u>Tanks</u>	<u>Submarines</u>	<u>Troops</u> (x 1000)
1931		6			
1932	200	8/9	250		
1933	350/500	9	350/500		
1934	500	11	650		
1935	950	14	800/900		
1936	1200	16/20	1200	70	
1937	1500	20	1500	70	
1938	2000	24	1900	75	
1939	2500	30	2500	90	
1940	2800	30	2700	103	700
1941 (Dec.)	1000	23	1000	105	800
1942	1000	19	800/1000	105	750
1943	1100	19	800/1000	108	
1944	1500	19	1000		700
1945: 31 Jan.	1700		1000		750
30 Apr.	3500		1300		850
31 May	4800		2000		1050
30 June	5600		3000		1300
31 July	6300		4500		1600

Soviet Domination and Momentum into Cold War Confrontation

Not resting on their laurels, the Soviets continued to build up their numerical advantage in the Far East planting seeds for the Cold War confrontation. (See Table 3.1.) By 1939, 2,500 Soviet aircraft faced a total of 560 Japanese planes in Manchuria. The Soviets boosted their numbers up to 2,700 by the time Japan signed a neutrality pact in 1941. After that point, the Soviets quickly moved all but 1,000 to the European theater. This was but a short reprieve. Within the last eight months of the war, the Soviets shifted over 5,300 additional aircraft to the Far East to counter Japan's total of 1,800 combined aircraft in Manchuria, Korea, and the Kuril Islands.¹⁷⁵ For their invasion of Japan proper, the Soviets achieved an eighty-to-one aircraft ratio to complement the Red Army's two-to-one superiority and five-to-one advantage in tanks.¹⁷⁶ Few wonder at the Soviet ability to seize the Kurile chain by 1 September 1945 or their establishment of airfields on Iturup (Etorofu) and Kunashir islands. Nor should it be any surprise that the Far East bastion served as a springboard for Soviet MiG pilots to launch into Korean airspace against UN forces six years later.¹⁷⁷

In an almost seamless transition, the United States inherited Japan's role as the Soviets' primary nemesis in the Far East. Wary of Stalin's plans for Asian expansion after World War II, the United States insured against Japan embracing the USSR through (among other means) a new Japanese constitution, intense trade and a heavy American

¹⁷⁵ Whiting, *Soviet Air Power*, 33.

¹⁷⁶ MacArthur.

¹⁷⁷ James H. Carter, "Bear on a Leash: Stalin's Air War in Korea, 1950-53" (M.A. thesis, University of Hawaii, 1993), chap. 7 *passim*.

military presence. Aerial engagements of the ensuing Cold War helped perpetuate Moscow's lopsided military investment in the Far East.

The first, and most extensive exchanges of hostile fire in this undeclared war occurred during the Korean War, and, as John J. Stephan points out, the Far East could have easily become the scene of a full-scale conflict. As soon as fighting broke out in Korea on 25 June 1950, the United States also stepped up its spy flights over Chukotka, Kamchatka and the Kuriles.¹⁷⁸ By 7 July 1950, those missions and other sources concluded the Soviets had 468,000 troops and 5,300 aircraft positioned in the Far East. Of particular concern were the 2,100 medium and heavy bombers capable of striking Japan. Up to that time, U.S. intelligence had made "no effort to estimate soviet intentions . . . (for) an assault against Japan."¹⁷⁹ Soviet intentions soon became more predictable because of American actions.

American bombing raids in North Korea drew ever closer to the adjoining Soviet border and raised concerns of Soviet commanders. On 8 October 1950, two American F-80 Shooting Stars entered Soviet territory and strafed Sukhaya Rechka airfield just twenty miles west of Vladivostok.¹⁸⁰ This was the first and only time that forces of one superpower attacked the territory of the other during the Cold War.¹⁸¹ Ironically, this occurred just as Stalin was vacillating over Peking's petitions for Soviet close air support

¹⁷⁸ Stephan, The Russian Far East, 250.

¹⁷⁹ "Soviet Capabilities with Respect to Japan in the Light of U.S. Commitment in Korea," (7 July 1950), Paul Kesaris, ed., Japan, Korea, and the Security of Asia, 146-1976: CIA Research Reports (Frederick, MD: University Publications of America, 1983) item 32390, microfilm.

¹⁸⁰ Jon Halliday, "Rewriting History: A Secret War: U.S. and Soviet Air Forces Clash Directly in Korea," Far Eastern Economic Review, 22 Apr. 1993, 32; Stephan, The Russian Far East, 250.

¹⁸¹ Halliday, 32.

of Chinese troops in Korea. These negotiations soon led to Moscow's introduction of the "Korean Surprise."¹⁸²

Stalin permitted a limited number of Russian pilots to fly then technologically superior MiG-15 fighters (dubbed the *Koreiskii Siurpriz* by Soviet pilots) in combat against American aircraft. Though initially supplied from Moscow, MiG-15s manufactured in Komsomolsk soon shuttled to Antung, Manchuria (present-day Dandong) along the Yalu River.¹⁸³ From there, Russian pilots under the command of Colonel Ivan Kozedub (the leading Soviet ace of World War II with sixty-two kills) struck against lumbering American B-29s and tangled with American fighter aircraft.¹⁸⁴ Under Stalin's strict orders to ensure "plausible deniability," the Russian MiGs bore Chinese markings and the pilots wore Chinese uniforms. The ruse did not last long. During the heat of battle, the Russian's abandoned their scripted Chinese radio calls. Their superior flying skills (as compared to the Chinese MiG pilots) also convinced the Americans that these pilots were Russian.¹⁸⁵

Neither Stalin nor Truman wanted these engagements publicized. Without any official (secret or otherwise) exchange, both realized news of Russians shooting down American aircrews would lead to a public outcry to declare war.¹⁸⁶ Thus, both sides exercised

¹⁸² Carter, 59, 72.

¹⁸³ Halliday, 32; Chinese authorities changed Antung's name to Dandong in 1965. My thanks to Professor Stephan pointing this out in Cho Jikoku and Chang Tsekuo, *Saishin Chukoku Chimei jiten* (Tokyo: Nichigai Associates, 1994), 311; Stephan, The Russian Far East, 250.

¹⁸⁴ Carter, 62.

¹⁸⁵ American aviators called the Russian MiG flyers "Honcho" pilots. This came from the Japanese term *hancho* ("group leader"). Ibid., 85; Robert F. Futrell, The United States Air Force in Korea 1950-54 (Washington, DC: Office of Air Force History, United States Air Force, 1983), 513; Halliday, 33.

¹⁸⁶ Ibid., 33.

diplomatic restraint and imposed restrictions on their pilots.¹⁸⁷ The Russians were not supposed to fly over the sea (where Americans could pick them up if they ditched) or come within sixty miles of the front lines. The Americans were not supposed to transit the Yalu River into Manchuria unless in "hot pursuit."¹⁸⁸

Understandably, pilots on both sides tried to settle scores and frequently broke the rules of engagement. The widening pattern of infractions led to shootdowns of U.S. B-29s over the Tumen River in 1950 and the Kurile Islands in 1952.¹⁸⁹ Another "accidental" engagement occurred between MiG-15s and U.S. Navy F-9F Panther Jets just outside Russian waters thirty kilometers (nineteen miles) south of *Mys Gamova* (Cape Gamov) in November 1952.¹⁹⁰ The most notable of such shootdowns occurred ten hours before the Korean armistice.¹⁹¹ On 27 July 1953, U.S. fighters shot down a Soviet Il'yushin Il-12 "civil air transport" en route from Port Arthur to Vladivostok. All twenty-one persons on board (including the Russian commander and vice commander of Port Arthur) died when it crashed sixty miles north of the Yalu River.¹⁹² Moscow protested and demanded a restitution payment of \$1, 861, 450. When the U.S. refused, MiG-15s evened the score two days later by downing an RB-50 electronic intelligence (ELINT) collector seventy miles southeast of Vladivostok in international waters. Sixteen crew members either perished or remained in Soviet captivity indefinitely; only the copilot

¹⁸⁷ Carter, 117.

¹⁸⁸ Ibid., 71; Halliday, 33.

¹⁸⁹ Stephan, The Russian Far East, 250.

¹⁹⁰ "Zhertvy neob'iavlenykh voin -- Tikhii okean: boi kotorovo ofitsial'no ne bylo," Vladivostok, 12 Jan. 1994, 7.

¹⁹¹ Stephan, The Russian Far East, 250.

¹⁹² Carter, 114; Stephan, The Russian Far East, 250; "Zhertvy neob'iavlenykh voin: Oni uletali v nikuda," Vladivostok, 21 July 1994, 7.

survived for rescue by U.S. forces. Years later (1993), Moscow officials said it was a case of an "eye for an eye."¹⁹³

After the Korean War, the Soviet and U.S. military continued to give each other plenty of reasons to justify continued fortifications in and around the Far East. Part of the strategic mix was a cat and mouse game in North Pacific skies that endured until the collapse of the Soviet Union. For example, during the 1960s and 70s, Tupolev Tu-20 (Tu-95) "Bear" bombers tested American fighter response over Alaska, and MiG-21s and MiG-23s probed Japanese radar and Self Defense Force capabilities.¹⁹⁴ The U.S. returned the favor by testing Soviet Far East radar with RC-135s and making surveys with U-2 and SR-71 spy planes. In concert, Soviet buildup of a nuclear-tipped fleet in the Sea of Okhotsk "bastion" attracted unwelcome probes by U.S. submarines in home waters.¹⁹⁵ Increased tension with China, especially after the 1969 Damanskii Island border clash, only further embedded a Far Eastern 'fortress mentality.'¹⁹⁶

Understandably, since the mid-1960s, the USSR placed a quarter of all its ground forces and twenty-six percent of its air force in the Far East, primarily along the Pacific coast and Chinese border.¹⁹⁷ By the early 1970s, the Far East bristled with 120 active airbases and this number increased to 140 during the latter part of that decade.¹⁹⁸ This

¹⁹³ Carter, 114-116.

¹⁹⁴ Robin Higham, introduction to Soviet Aviation and Air Power: A Historical View, ed. Robin Higham and Jacob W. Kipp (Boulder, CO: Westview Press, 1977), 11; Stephan, The Kuril Islands, 186-187.

¹⁹⁵ Geoffrey Jukes, Russia's Military and the Northern Territories Issue: Strategic and Defense Studies Center Working Paper No. 277 (Canberra: The Australian National University, 1993), 13-23.

¹⁹⁶ Eugene A. Taylor, Border Conflict as a Factor in Sino-Soviet Rivalry (Carlisle Barracks, PA: U.S. Army War College, Springfield, VA: National Technical Information Service, 1973), 1-24, microfilm.

¹⁹⁷ Dienes, 162.

¹⁹⁸ Derek Da Chuna, Restructuring of Soviet Far Eastern Air Power (Singapore: Institute of Southeast Asian Studies, 1991), 44.

buildup heavily skewed the Far East's population which was (and is) less than three percent of Russia's total. Consequently, one fourth of all adult males up to age sixty in the region were active military.¹⁹⁹

Summarizing this and the preceding chapter, one can see how the Far East's transformation from a "window to the Pacific" to a shield against it was complete by the end of World War II. Russia's aviation relation to Japan went from reaction, to accommodation, to circumspection, to competition, and finally to domination during the first forty years of flight in the Far East. This process moved to confrontation when the United States assumed Japan's role as Russia's Pacific nemesis. Thus, to a significant degree, Russo-Japanese relations generated a dominant and enduring military emphasis in Russia's Far East. During aviation's formative years, strategic considerations caused military expenditures to overwhelm civil investments, and this imbalance continued throughout the Soviet era. Perhaps this attitude is best summed up by Marshal Pavel S. Kutakov's (then Commander-in-Chief of the Soviet Air Forces) comments commemorating Soviet Aviation Day in 1971:

The present-day international situation is characterized by growing aggressiveness of imperialism which is aimed against the Soviet Union and the countries of Socialism.²⁰⁰

¹⁹⁹ Dienes, 162.

²⁰⁰ Avn. P. Kutakov, [Avianachal'nik Pavel S.] "On Guard of the Air Borders," Aviatsiya i komsovnatika, 8 (Aug. 1971): 3, (Washington, DC: JPRS, 18 Nov. 1971), 2; Ulrich-Joachim Schulz-Torge, ed., Who Was Who in the Soviet Union (New York, NY: K. G. Saur, 1992), 292.

Marshal Kutakov issued this statement only two months after Aeroflot and Japan airlines established regular civilian carrier service between Niigata and Khabarovsk. This was the first true commercial air link between Japan and Russia's Far East.

CHAPTER 4

EPIC FLIGHTS AND SIGNALS TO JAPAN

Having traced the Far East's military trajectory, we also need to examine how the Soviets' civil-military blend of aviation both embraced and repelled Japan from that region. Aviation could have linked Russia's Far East with neighboring Japan at a very early point. Consequently, the 1920s saw both visions of aerial ties and inaugural flights toward this goal. However, good intentions evaporated after 1931 bringing a shift in the Soviet Union's aerial messages to Japan.

The Vision

As early as 1920, Russian émigrés in Tokyo published specific visions for commercial aviation across the Sea of Japan. In the November 1920 issue of The Russian Far East Economic Monthly, a certain A. Serapinin exclaimed that airships could link Japan's industrial capacity with Siberia's resources. His article points out how English P. 38 airships of the day could lift fifteen tons of cargo, passengers, and mail 4,500 kilometers (2,800 miles) in only fifty hours. Gold and platinum figure prominently as he describes linking Nikolaevsk, Okhotsk and the interior with Japan. He also relates how fishing and whaling concerns on Kamchatka expressed a keen interest in using aerial reconnaissance to increase harvests.²⁰¹

²⁰¹ A. Serapinin, "Prospects of Commercial Aviation in the Far East," The Russian Far East: Economic Monthly, 2 (Nov. 1920), 55.

Serapinin's ideas were premature, but they merited attention. In spite of Russian political instability, Japanese firms maintained lumber, mining, fur, and fishing operations in the Far East throughout the 1920s.²⁰² Serapinin pointed out that the Bolshevik regime had already approved a similar balloon operation in the south Urals in 1918. However, he also lamented that the "Czechs' expansion" of the civil war into the Urals prevented the venture's realization. Serapinin's timing was off for the Far East, as well. Outrage over the April 1920 Nikolaevsk Incident must have remained fresh on the minds of his Japanese readership.²⁰³ Moreover, Japan's need for continued military presence in the Far East (until normalization with Moscow) underscored the lack of a safe environment for operating hydrogen-filled dirigibles.²⁰⁴ Nevertheless, relations involving the Far East soon changed and renewed the vision.

During the intervention, Japan found armed occupation too costly, and reality soon drove Soviet Russia to engage Japanese assistance as it rebuilt the shattered Far East economy.²⁰⁵ This process advanced when Moscow discarded the charade of the Far Eastern Republic in 1922. Consequently, the Soviet Regime gained Japan's diplomatic recognition on 20 January 1925. That summer, while talking with Japanese interviewers, Stalin made the effusive statement, "I, too, am an Asiatic."²⁰⁶ In the midst of such 'good will,' both parties soon attempted to enhance their brittle friendship through aviation.

²⁰² Stephan, The Russian Far East, 163.

²⁰³ Yakov I. Triapitsyn's partisan band slaughtered several hundred Japanese citizens along with the rest of Nikolaevsk's 6,000 inhabitants causing extreme outrage abroad. MERSH, s.v. "Nikolaevsk Incident."

²⁰⁴ Stephan, The Russian Far East, 140-166.

²⁰⁵ MERSH, s.v. "Japanese-Russian Relations," by George Alexander Lensen; Stephan, The Russian Far East, 177.

²⁰⁶ "Russia Cultivates Japan's Friendship," New York Times, 26 Aug. 1925, 7.

Moscow tried to use its fledgling civil aviation as a diplomatic panacea to embrace not only Japan but China as well. According to one Russian source, on 1 June 1925, the Presidium of the Central Executive Committee of the USSR (1924-37) published the following statement:

Considering the extreme importance of developing cultural and economic ties between the USSR and the friendly inhabitants of China . . . the Society of Friends of the Air Fleet and the Russian Dobrolet Society are organizing . . . an aerial flight from Moscow to China . . .²⁰⁷

Like his Soviet predecessors, the Russian author citing that quotation failed to mention that Tokyo was also part of that 1925 itinerary.²⁰⁸ Indeed, two Russian aircraft continued from Peking to Japan in 1925, yet Russia's purposed silence is understandable.²⁰⁹ That particular mission was not entirely successful, and it caused an embarrassing international incident.²¹⁰ Let us now look at the Moscow-Peking (-Tokyo) flight in its full context.

Ostensibly under the sponsorship of the Asahi Shimbun, Izvestia and other newspapers, Japan and the Soviet Union agreed to exchange a set of goodwill flights. The itineraries included stops in between and beyond each respective capital. The Soviet contingent, to be covered shortly, departed Moscow on 10 June 1925, and the Japanese flight left Tokyo in July.²¹¹

²⁰⁷ Iurii Ufimtsev, "Kryl'ia strany sovetov," Vladivostok, 20 Aug. 1994, 8.

²⁰⁸ None of the following accounts mention the Japan leg of the journey: Aksenov, 3; GSE, 1974 ed., s.v. "Aviation;" Ufimtsev, 8.

²⁰⁹ "China-Japan Flight," New York Times, 2 Sep. 1925, 20.

²¹⁰ "Soviet Plane Causes Japanese Protest," New York Times, 2 Sep. 1925, 20.

²¹¹ "Russia Cultivates Japan's Friendship," New York Times, 26 Aug. 1925, 7; Ufimtsev, 8.

After nearly a month's journey, Japan's team captured world attention when they landed in Moscow on 25 August 1925. Piloting the two French-built Breguet 19-A2 planes were Captain Hiroshi Abe of the Japanese Army and civilian pilot Kazuhiko Kawachi (along with mechanics Shun-ichiro Shinohara and Shohei Katagiri). A 400-horsepower Lorraine motor propelled each cloth-winged (all-metal fuselage) biplane at a cruise speed of 165 kilometers per hour (102.5 miles per hour).²¹² As they entered Moscow airspace, the *Hatsukaze* (First Wind) and *Kochikaze* (East Wind) received a Soviet fighter escort in battle wedge formation. This was the primary reception the Japanese aviators received. Moscow's huge welcome, prepared in advance, evaporated by the time Abe and Kawachi arrived because a weather delay at Kazan put them three days behind schedule. After a brief stay in Moscow, the Japanese airmen went on to Paris and other European cities.²¹³

As mentioned earlier, a Soviet flight of six aircraft departed Moscow on 10 June 1925. They traversed 6,566 kilometers (4,080 miles) of hazardous terrain, and, after a total of forty-nine hours and twenty minutes of flight time, they arrived safely in Peking, thirty-three days later.²¹⁴ The composition and experiences of this Daedalian delegation provide several insights to both the status of Soviet aviation at the time and Moscow's circumspection toward Japan. The trip also displayed some of the bravado Russian pilots needed for flying early Soviet aircraft.

²¹² Kohri, 60.

²¹³ "Planes Convoyed into Moscow by Three Russian Planes," New York Times, 25 Aug. 1925, sec. 1, 2.

²¹⁴ Ufimtsev, 8.

Tsarist Russia left the Soviets with a weak aircraft industry forcing a dependence on foreign (especially German) technology, hence, the Moscow-Peking (-Tokyo) flight had a patchwork pedigree. The group included two German Junkers entitled *Krasnii kamvol'shchik* (Red Suit) and *Pravda* (Truth). Along with these flew domestic manufacturers: two R-1s (ultimately bound for Tokyo), one R-2 and a new fabric-covered Tupolev AK-1 passenger plane titled *Latyshskii strelok* (Latvian sharpshooter).²¹⁵ According to a Russian source, these last four had yet untested Soviet-made motors.²¹⁶ Because of this and other risks, no correspondents wanted to join the flight until three female Moscow reporters "volunteered" to go. Further disincentives included open air cockpits and questionable overnight accommodations en route. Each aircraft carried a telegraph hookup enabling them to contact nearby rail stations. This was so railway officials could halt the Trans-Siberian Train and prevent it from smashing into the aircraft while parked on the railbed overnight.²¹⁷ Apparently, a combination of Soviet impetuosity and competition from the incoming Japanese pressured the pilots to accept the risks.

The leader of this contingent, Commissar Otto Yul'evich Shmidt (1891-1956), routinely took risks in his illustrious scientific career.²¹⁸ Best known for his Arctic explorations, he was also an accomplished astronomer, mathematician, geographer, and historian of science. He served as chief editor of the Great Soviet Encyclopedia from

²¹⁵ Kohri, 49; Ufimtsev, 8.

²¹⁶ According to a western source, a 100 horsepower Sampson "Star" engine (designed by Britain) powered the AK-1. Parker, 41.

²¹⁷ Ufimtsev, 8.

²¹⁸ Ibid.

1925-1941, was a member of the Academy of Sciences of the Soviet Union, and became a Hero of the Soviet Union in 1935.²¹⁹ Shmidt also figured as a prominent beneficiary of Soviet Far Eastern aviation during the *Cheliuskin* (a Soviet ship) rescue which occurred nine years after his memorable trip to China.

No doubt, Shmidt could never forget Moscow's festive farewell as he and the team of twelve pilots and mechanics (and three correspondents) departed east. The city gave a rousing sendoff complete with banners, orchestras, speeches and a procession of people in matching athletic suits. The celebrations masked Soviet doubts about the ultimate success of such a risky flight.²²⁰ Nevertheless, safety concerns were secondary to achieving the flight's diplomatic goals.

In the pursuit of favorable relations abroad, the contingent set no speed records. The covey was limited to daytime flight and contact navigation (this method requires frequent use of ground references) via the Trans-Siberian Railway and other terrain features. The group experienced further delays by prolonged political rallies at Siberian and Mongolian settlements. Such stops were apparently necessary to foster a positive Soviet image. At Ulan Bator, the Mongol residents for some reason walked around the pilots, clucked their tongues and said, "America, America, great!"²²¹ More than recognition, however, logistical supply proved to be a problem. At one point the contingent could not find any rope for aircraft repairs even though the town had a rope factory. Enroute delays aside, all six original aircraft reached Peking on 15 July 1925.²²²

²¹⁹ MERSH, s.v. "Shmidt, Otto Yul'evich."

²²⁰ Ufimstev, 8.

²²¹ Ibid.

²²² Ibid.

In spite of China's own domestic strife at the time, Peking put on a dazzling welcome display of music, paper flowers, flowing banners and adoring crowds. Commissar Shmidt played his role well, too. He demonstrated his "worker solidarity" with some rickshaw drivers by taking a group of them in Soviet embassy automobiles through the city to see a movie.²²³ After this and similar goodwill gestures, the Soviet entourage flew homeward.

Most of the original aircraft made it back to Moscow. Three months and eleven days after their initial departure, they met cheering crowds waving banners that proclaimed: "Our pilots and our motors from Moscow to China!"²²⁴ The din of such fanfare ensured the public 'forgot' that Tokyo was the original goal. Soviet and Russian accounts still overlook the fate of the two R-1s.²²⁵ In actuality, that pair broke off from the Shmidt group in Peking and pressed on to Japan to reciprocate the visit paid by Abe and Kawachi.

The ill-fated pair of R-1s made several hops toward Japan. After an overnight stop in Korea, the flight set out to land in Tokyo on 1 September 1925. Unfortunately the pilots became disoriented and got separated in the morning fog. Pilot M. Gromov and his mechanic, Rozevich (first name unknown), safely reached the planned destination of Tokorosawa Army Airfield that day.²²⁶ In Tokyo proper, they received a hero's welcome

²²³ Ibid.

²²⁴ Ibid.

²²⁵ GSE, 1974 ed., s.v. "Aviation;" Ufimtsev, 8.

²²⁶ The article covering this flight on page one of the Japan Times' 3 September 1925 edition lists only the flyers' last names as well. The pilot was most likely Mikhail Gromov who made another notable flight in 1937 (see page 81).

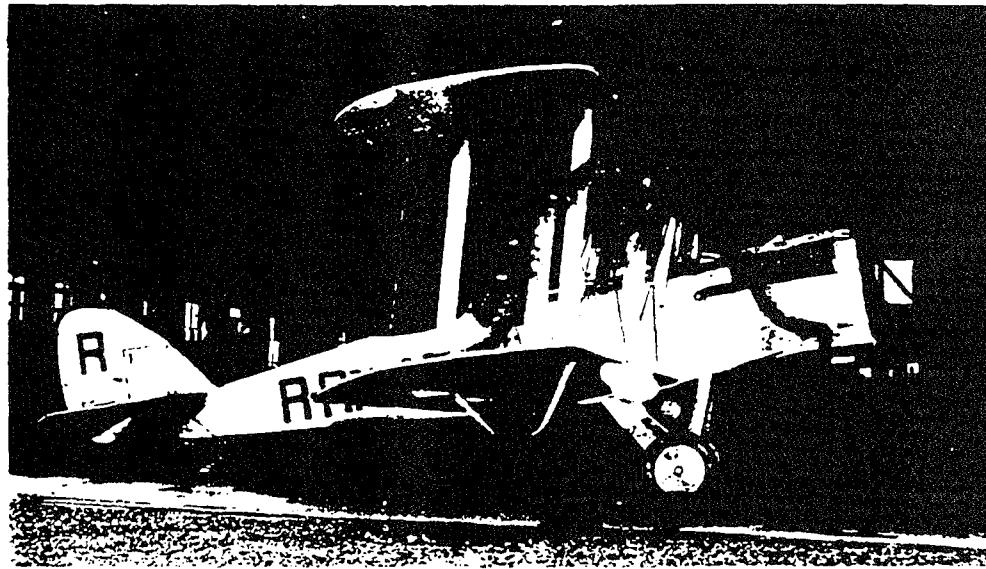


Fig. 4.1. The Soviet R-1 impounded by Japanese military in 1925.

[Katsu Kohri, Ikuo Komori and Ichiro Naito, comps., The Fifty Years of Japanese Aviation: 1910-1960, vol. 2 trans. Kazuo Ohyauchi. (Tokyo: Kantissha, 1961), item 244, page 49.]

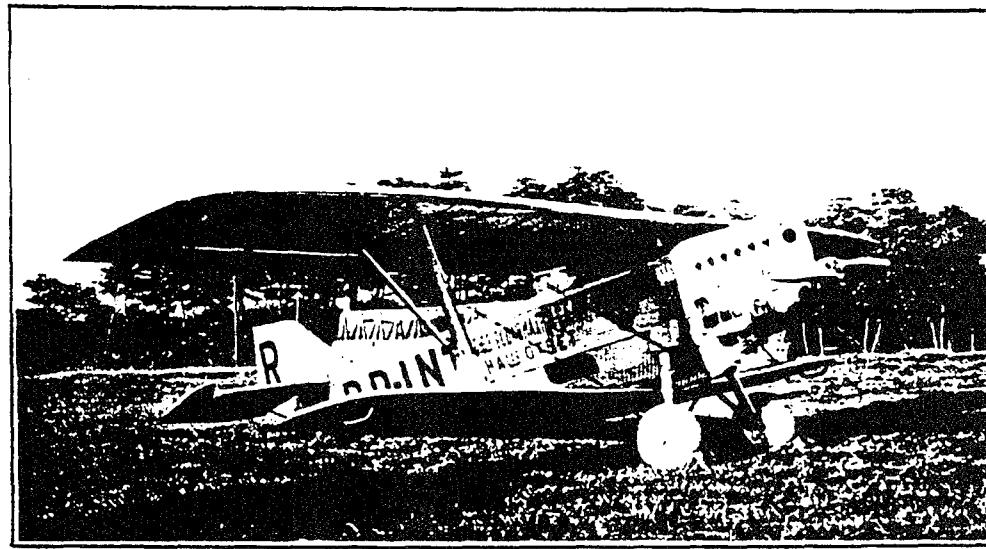


Fig. 4.2. The *Nash Otvet*.

[Katsu Kohri, Ikuo Komori and Ichiro Naito, comps., The Fifty Years of Japanese Aviation: 1910-1960, vol. 2 trans. Kazuo Ohyauchi. (Tokyo: Kantissha, 1961), item 310, page 64.]

from cheering crowds that had decorated the Soviet Embassy in their honor.²²⁷ Their wingman met a far less pleasant reception.

Lost in the fog and unfamiliar with the territory, the hapless (and now anonymous) R-1 crew landed on the drill field of Shimonoseki Barracks. At the last moment, they "recognized the nature of the place" and flew on to Moji station where they barely missed the housetops before crash landing. The Japanese military immediately arrested the crew for violating fortified zone regulations and dismantled the aircraft. (See Fig. 4.1.) Though later exonerated, the Russians initially faced a stiff fine and up to a year's imprisonment. As the New York Times commented, "Japan's suspicions of the Soviet Government will probably cause a thorough investigation of this case."²²⁸ That mistrust continued to shape the USSR's priorities in the Far East, and they cast aviation in that region further toward military buildup at the expense of civil development.

Two years later, in late summer of 1927, the Soviets tried to smooth things out with another good will flight to Tokyo. In spite of its rather polemic title, *Nash Otvet* (Our Reply), this plane and its pilot enjoyed greater success. (See Fig. 4.2.)

At the controls of the *Nash Otvet*, was young Semen Aleksandrovich Shestakov (1898-1943). This native of Bendery (near Odessa) made this flight and a similar one to New York (across the Far East and the North Pacific) in 1929 to carve his niche in Soviet aviation history. His flying career extended to World War II until he was killed in combat

²²⁷ Kohri, 49; "One Plane Reaches Tokyo, Russian Embassy Decorated in its Honor," New York Times, 3 Sep. 1925, 6.

²²⁸ Kohri, 49; "Soviet Plane Causes Japanese Protest," New York Times, 2 Sep. 1925, 20; Japan Times, 3 Sep. 1925, 1.

on 1 August 1943.²²⁹ By the time of his death, Shestakov was quite a senior pilot. During the formative years, what Soviet aviators lacked in experience, they made up with youthful zeal. When Shestakov and his flight mechanic Dmitri V. Fufaev flew to Tokyo in 1927, there was less than fifty years of age between the two men. Their aircraft also symbolized young Soviet aviation.

Shestakov's Tupolev ANT-3 (R-3) was a two-seat biplane. Propelled by a single 400-horsepower M-5 engine, it cruised at an average of 200 kilometers per hour (125 miles per hour). This was Tupolev's first venture into an all-metal design. Covered with corrugated duralumin alloy, the ANT-3 reconnaissance plane was the Soviets' first serially produced aircraft with a cargo bay, and they proudly hailed it as "entirely (their) own machine."²³⁰ It served Shestakov well on his flight.

Under the scrutiny of assembled Japanese Army and Navy attachés, Shestakov and Fufaev departed Moscow on 22 August 1927. They completed the arduous 11,000 kilometer (6,835 mile) trip in eleven days. Following part of the same course their countrymen used two years prior, the final portion of their itinerary included overnight stops at Spassk and Pusan, Korea. From there they crossed the Tsushima Straits and refueled in Okayama. This time, Japan left no room for error and escorted Shestakov with twelve military aircraft until he touched down at Tokyo's Tachikawa Airfield on 2 September 1927.²³¹

²²⁹ MERSH, s.v. "Shestakov, Semen Aleksandrovich."

²³⁰ Boyd, 26; Kohri, 64; Ufimtsev, 8.

²³¹ Kohri, 64; Ufimtsev, 8. The dates of the 1925 and 1927 flights coincide so closely that one has to wonder whether the second flight's timing was by design or accident.

Thousands of cheering Tokyo citizens witnessed Premier Tanaka himself award Shestakov and Fufaev with Japanese medals. Other good will gestures abounded. On board the *Nash Otvet* was a "friendly gift" copy for the Asahi of the official Osoaviakhim magazine *Aviatsiia i khimiia (Aviation and Chemistry)* proclaiming the achievements of Soviet aviation might. Shestakov also proudly displayed a new Soviet-produced motor. Japanese enthusiasm waned when he revealed that it could not last more than seventy flight hours before a major overhaul. Nevertheless, the Asahi lavished praise for the "success of the Soviet pilots" and the "high standards of Soviet aviation" they exemplified.²³² The Asahi further wrote:

The differences of the USSR and Japan did not impede the development of air connections between Japan and the USSR. They will further promote profound friendship between our nations, and, therefore, we warmly greet your Soviet pilots.²³³

Pausing here, one needs to ask if the Soviet Union shared such aspirations.

The Vision Fades

Growing trepidation toward Japan did not totally extinguish early visions of aviation links with Japan among Soviet leaders. It is noteworthy that before Japan's pivotal conquest of Manchuria in September 1931, there was a slight tension between Moscow and Far Eastern leadership.²³⁴ Initially, the central government tolerated foreign (U.S., Japanese, and other nations) concessions to help supply and rebuild the Far East's economy.²³⁵ Nevertheless, Moscow became increasingly fearful of an unrestrained

²³² Ufimstev, 8.

²³³ Ibid.

²³⁴ James Raymond Hughes, Stalin, Siberia, and the Crisis of the New Economic Policy (Cambridge: Cambridge University Press, 1991), 27, 172; Stephan, The Russian Far East, chap. 18 *passim*.

²³⁵ Stephan, The Russian Far East, 164-166, 173-177.

periphery and its resources slipping into Japanese control. Hence, the focus of its efforts, especially civil aviation, was to "draw near the Far East to . . . Moscow."²³⁶ Conversely, until 1931, the leadership of civil aviation in the Far East was more open toward Japan. A quotation of a January 1930 edition of the *Tikhookeanskaia zvezda* (Pacific Ocean Star) cites Dobrolet's Far Eastern supervisor, Aleksandr Semenovich Rivadin, as saying:

Today we open the first air route in the Far East. This is the beginning of a great air network that will develop this area in the upcoming years. Soviet aviators are building air routes to Kamchatka and Chukotka, in the Primorye and Priamur, in Yakutsk and on the Okhotsk coastline. Aircraft will connect Khabarovsk with all cities and major population centers of the region, and what is more, at some time it will come to pass (that) our (aircraft) . . . will speed along to Tokyo, Korea and other countries of Asia.²³⁷

For the Far East, such optimistic international visions would have to wait another forty years before realization.

Overall, civil aviation languished in the Far East during the 1930s, except when it proved useful to demonstrate potential Soviet capacity against outside pressures. As previously detailed, Soviet Russia's bid to control the Chinese Eastern Railway (October-December 1929) precipitated Japan's overwhelming countermove into Manchuria (September 1931). Tensions mounted in the Far East as overestimations held by both the Kwantung and Special Far Eastern Armies propelled each other toward war. After January 1934, Stalin also had to contemplate a German threat. Hitler's ten year nonaggression pact with Poland and designs on the Ukraine warned of a two-front war.²³⁸

²³⁶ Danilenko, *Kryl'ia Dalnego Vostoka*, 8.

²³⁷ Ibid., 14.

²³⁸ Kenneth R. Whiting, "Soviet Aviation and Air Power under Stalin, 1928-1941," in Soviet Aviation and Air Power: A Historical View, ed. Robin Higham and Jacob W. Kipp, (Boulder, CO: Westview Press, 1977), 54-56.

Thus, during the 1930s, the Soviet Union's purposed blend of civil and military aviation became a key instrument in its diplomatic arsenal rather than an avenue of international economic integration. Propaganda motives combined with scientific curiosity and communist zeal to inspire a series of spectacular flights by "Stalin's Falcons" in the Arctic and the Far East between 1934 and 1939.²³⁹ Among these, three particular aviation events over the Far East sent signals directly to Japan.

Epic Flights and Veiled Warnings

In early 1934, one of the first major tests of Soviet aviation's capability in the Far East came during a dramatic and highly publicized arctic rescue. Under the leadership of Otto Yul'evich Shmidt, the Soviet steamship *Cheliuskin* departed Murmansk on 10 August 1933 attempting a risky Northern Sea Route journey to Vladivostok.²⁴⁰ The crew abandoned ship with supplies onto the surrounding ice as massive, drifting floes crushed and sank the vessel on 13 February 1934.²⁴¹

Although just seventy-three miles off shore from the Chukotka Peninsula, severe weather and gaps in the ice precluded rescue by dogsled teams or traversing by foot.²⁴² Constant radio contact with Moscow and frequent, previous press coverage of the expedition prompted a month-long provisioning and rescue effort by air. The Soviet

²³⁹ Lazar' Konstantinovich Brontman and Lev Borisovich Khvat, The Heroic Flight of the "Rodina." (Moscow: Foreign Languages Publishing House, 1938), 10-12.

²⁴⁰ The *Cheliuskin* was a non-specialized cargo vessel selected because it had greater range than the icebreakers of the Soviet fleet; it quickly succumbed to pack ice once trapped. Alec Brown, trans., The Voyage of the Cheliuskin (London: Chatto and Windus, 1935), 91.

²⁴¹ Leon Bernstein, "The Cheliuskin Epic," The Living Age 347 (Sep 1934): 49.

²⁴² Brown, 204.

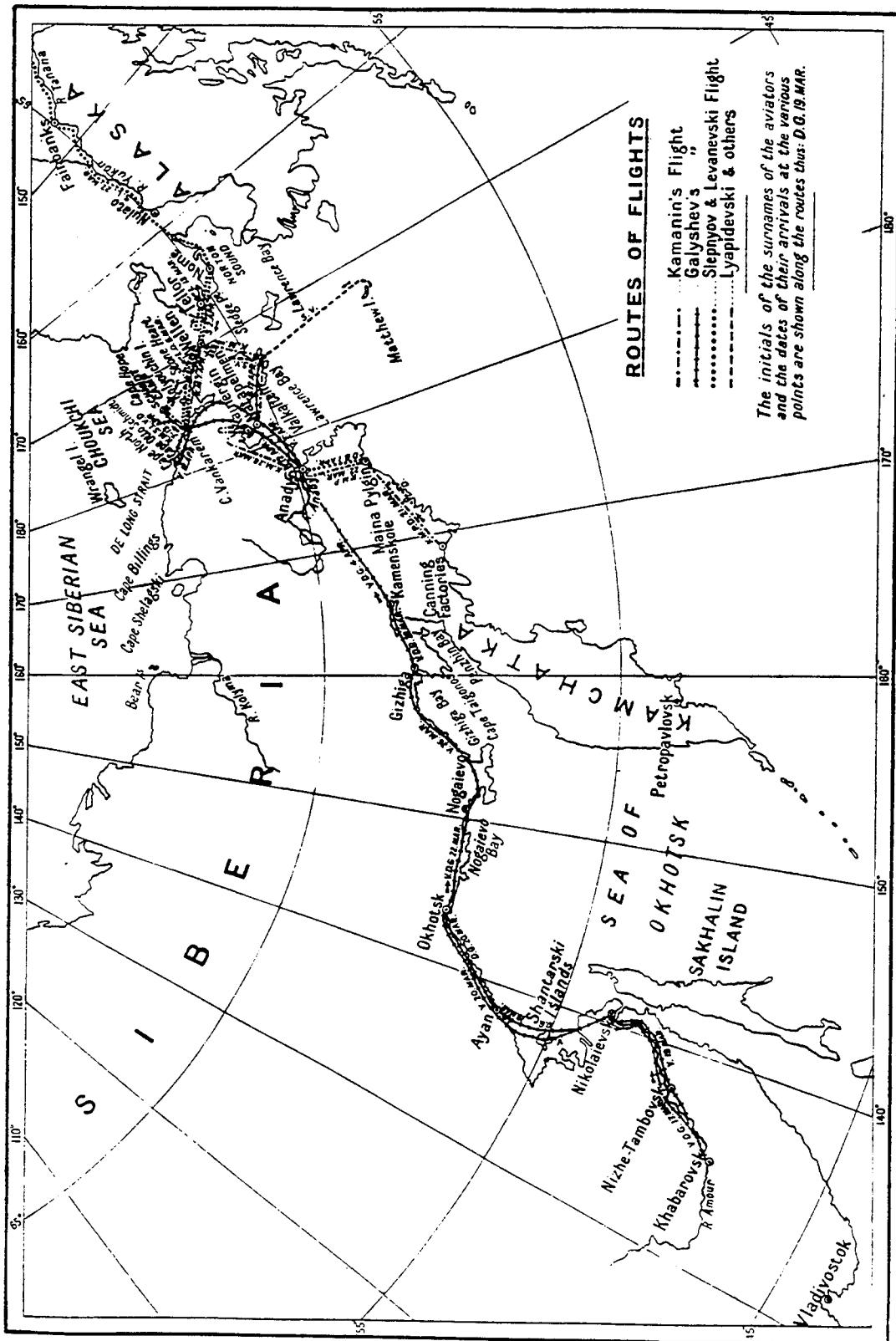


Fig. 4.3. Routes of Flights for the *Cheliuskin* Rescue.
 [Alec Brown, trans., *The Voyage of the Chelyuskin* [sic] Cheliuskin
 (New York, NY: MacMillan and Co., 1935), 270.]

Union spared no effort, and its airmen rescued all 104 stranded scientists and crewmembers (including ten women and two children).²⁴³ This opportunity allowed the Soviet government to put forth its best effort, to gain international prestige and to start sending oblique messages to Japan.

Upon receiving the distress call, the government dispatched aircraft and airmen (both civil and military) from all directions. (See Fig. 4.3.) Mikhail Vodop'ianov traveled by rail from Moscow to Khabarovsk to join a formation flight with pilots Ivan Doronin and, Viktor Galishev. In spite of severe winter conditions, deficient tools, and a shortage of parts, mechanics worked around the clock to assemble Vodop'ianov's Tupolev R-5.²⁴⁴ Vasilii Molokov and his team departed Vladivostok by sea with their aircraft on the *Smolensk*, and the *Stalingrad* left Kamchatka with two planes on board.²⁴⁵ Sigizmund Levanevskii and his team of pilots flew on commercial transports from Moscow to Alaska via Berlin, London, and New York. At Fairbanks, they received two nine-passenger aircraft purchased from Pan American Airlines, and they painted Soviet markings on them prior to departure to Vankarem via Nome. Other pilots, including Anatoli Liapidevskii flew an assortment of Tupolev ANT-4s and R-5s directly from

²⁴³ GSE, 3rd ed., s.v. "Cheliuskin," says 111 people were rescued, the Bernstein article states 101, and Stephan cites 104 survivors in *The Russian Far East* on page 236. On that same page, Stephan also points out how only months before the *Cheliuskin*, over 1,000 Soviet prisoners froze to death in the cargo hold of the *Dzhurma* when ice trapped it near the Bering Strait.

²⁴⁴ Mikhail Sergeevich Babushkin, *Zapiski letchika* (Moscow: Izdatel'stvo Glavsevmorputi, 1941), 134; Brown, 303; Danielenko, 27; Parker, 43.

²⁴⁵ Bernstein, 56.

northern Kamchatka.²⁴⁶ All aircraft converged on Cape Vankarem, and from 5 March until 7 April, they shuttled supplies and crewmembers until all were safely ashore.

The rescue effort was successful, but it did have some setbacks. Snowstorms, mechanical failures, crash landings due to icing and just finding the rescue sight were but a few of the difficulties endured. Along with the elements, logistics would have made the rescue all but impossible had it not been for Chukchi natives and their dogsled teams.

Chukchi caravans from all over the peninsula voluntarily transported five tons of fuel, 150 kilograms (330 pounds) at a time, from Cape North and Providence Bay to Vankarem. During each forced landing, the ubiquitous Chukchis were promptly on the scene to rescue the airmen. Anatoli Liapidevskii expressed both gratitude and frustration when he quipped, "This much is true--I traveled more kilometers about the Chukchi Peninsula on dog sledges than in my ANT-4."²⁴⁷

Eventually, the rescuers and *Cheliuskin* party departed, and the Chukchi returned to a more normal life. The Russians left Providence Bay on board the *Smolensk* and returned to Vladivostok on 7 June 1934, for one of several heroes' welcomes.²⁴⁸ In Moscow, Stalin rewarded some of the drama's participants with Communist Party membership and Orders of Lenin. He also presented the very first awards of the newly created title "Hero of the Soviet Union" to seven pilots including Far East veteran fliers, Levanevskii, Liapidevskii, and Vodop'ianov.²⁴⁹

²⁴⁶ Babushkin, 134; Thomas P. Bartow, "Early Trans-Pacific Aviation 1930-1941" (M.A. Thesis, University of Hawaii, 1958), 69; Brown, 255.

²⁴⁷ Ibid., 249, 252, 261.

²⁴⁸ Bernstein, 56, Brown, 263.

²⁴⁹ Ibid., 238; Danilenko, *Kryl'ia Dalnego Vostoka*, 27; GSE, 1974 ed., s.v. "Aviation."

The saga of the *Cheliuskin* was indeed a major propaganda coup for the Soviet Union, and commentaries in the foreign press lauded the Soviet government and its airmen.²⁵⁰ In 1935, Moscow released a volume detailing the *Cheliuskin's* rescue. The book not only served as a showcase for Soviet aviation, but also as the first of several increasingly strong warnings to Japan. Designed and published for consumption abroad, it contains select remarks by the seven immortalized pilots that Japan could not miss. Upon receiving word to go to the Far East, Vasilii Molokov remarked, "My orders made me think perhaps things were a bit wrong with Japan."²⁵¹ Nikolai Kamanin, a pilot in the Special Red Banner Far Eastern Army, was more blunt:

I know that Japan is preparing to attack us, and I study that country from every possible angle . . . If the Japanese imperialists attack us, we shall smash them . . .²⁵²

Those words gained significance as the decade progressed.

Between 1937 and 1938, world attention focused on the Arctic again when the Soviets made several other spectacular flights to and over the North Pole. In June 1937, Valeri Chkalov, Georgii Baidukov and Aleksandr Beliakov flew 8,504 kilometers (5,280 miles) non-stop in an ANT-25 over the Pole for 63 hours to reach Pearson, Washington. The following month, Mikhail Gromov, Andrei Iumashev, and Sergei Danilin flew another ANT-25 over the same route to California. Determined to break the 1933 French duration record, Gromov's crew originally planned to land at Oakland. However, surplus fuel encouraged a 500 mile extension to San Diego. After securing the world record, they

²⁵⁰ Stephan RFE, 226.

²⁵¹ Brown, 272.

²⁵² Ibid., 284.

turned back from San Diego due to fog and landed in a pasture near San Jacinto, California.²⁵³ They set a new world record of 10,148 kilometers (6,306 miles) in sixty-two hours and seventeen minutes.²⁵⁴ On 12 August of that year, Hero of the Soviet Union Sigizmund Levanevskii departed Moscow for Fairbanks, Alaska in a four-motor Tupolev transport dubbed simply "N-209." He and his crew of six, experienced engine failure and vanished over the arctic.²⁵⁵ The Soviets conducted a seven month search without finding a single trace.²⁵⁶ This unfortunate loss helped quell Soviet plans to establish regular transpolar air service with America.²⁵⁷ Moreover, increasing tension with Japan inspired the Soviets to make record flights over the Far East with a specific message for Japan.

In 1936, Moscow boasted that by 1937 it would have a "million pilots and thousands of aircraft" capable of bombing Tokyo until "nothing (was) left."²⁵⁸ At the time, a Russian author living abroad discounted the feasibility of such a boast. That author calculated the costs of pilot training, aircraft manufacture, airfield construction and continued flight operation to be far beyond the budget of the Soviet government.²⁵⁹ He also pointed out the best Soviet bombers could only span half the distance between Vladivostok and Tokyo.²⁶⁰ By 1938, two epic flights over the Far East clearly demonstrated Soviet 'potential' and willingness to strike Japan from the air.

²⁵³ New York Times, 15 July 1937, 1.

²⁵⁴ GSE 3rd ed. s.v. "Aviation."

²⁵⁵ Babushkin, 216.

²⁵⁶ Danilenko, Kryl'ia Dalnego Vostoka, 42-43.

²⁵⁷ Boyd, 67; Gwynn-Jones, 72.

²⁵⁸ Leiti L'dovskii, "O iavleniakh, dostoynykh udivleniiia, " Za Rossiju (Shanghai), Jan. 1936, 5.

²⁵⁹ Ibid.

²⁶⁰ Ibid.

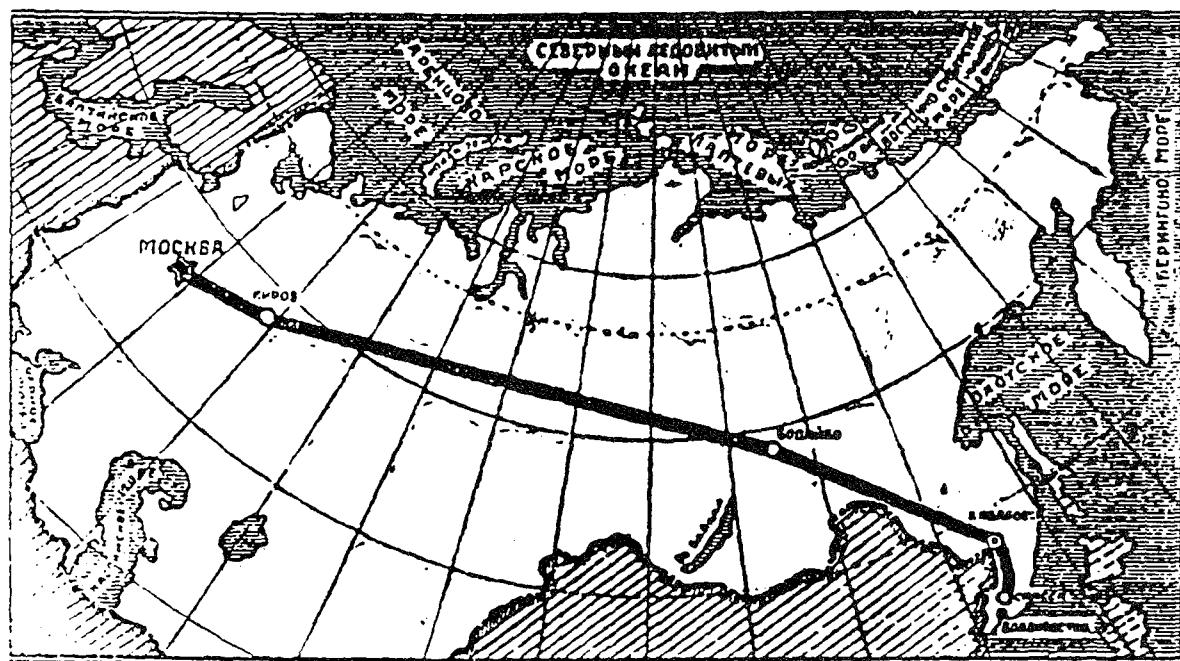


Fig. 4.4. Great circle routing of Kokkinaki's and Briandinskii's flight.
[Vladimir Kokkinaki i Aleksandr Briandinskii, "Nash perelet," *Krasnoe znamia*, 2 July 1938, *.]



Fig. 4.5. Soviet illustrations of Briandinskii, the *Moskva* and Kokkinaki. [Soviet Union, Soviet Aviation (Moscow and Leningrad: State Art Publishers, 1939), no page numbers.]

In June 1938, Stalin personally tasked Vladimir Konstantinovich Kokkinaki (1904-1985) and his navigator, Aleksandr Briandinskii, to make a twenty-four hour, non-stop flight from Moscow to the Far East. The pair departed Shchelkovo Aerodrome on the outskirts of Moscow at 8:36 A.M. on 27 June 1938.²⁶¹ They flew a two-motored Il'yushin Il-4 (also called the TsKB-30 or DB-3F) medium bomber with retractable gear titled the *Moskva*.²⁶² Using great circle routing, they shot across 7,600 kilometers (4,722 miles) in twenty-four hours and thirty-six minutes and landed at Spassk to set a new world record.²⁶³ (See Figs. 4.4 and 4.5.)

The pressure on these men to perform was tremendous. Amidst the terror of the purges and Stalin's personality cult, Soviet flyers had no option but to succeed or die trying. Rather than accolades for pilots, post-flight banners proclaimed, "Long live Comrade Stalin—the best friend of Soviet pilots and the inspiration of their exploits!" Kokkinaki recalled the brief conversation in which Stalin asked, "Are you able to fly to the Primorye in a day?" Kokkinaki gave the obvious reply, "It will be flown in a day!" Ever the humanitarian, Stalin bid Kokkinaki farewell in familiar terms. He admonished Kokkinaki "to watch out for (himself) . . . and not take risks in case of an emergency, but to turn back . . ." During the flight, Marshal Kliment E. Voroshilov kept in constant radio contact to inquire on Kokkinaki's progress. He also issued Orwellian comfort by informing him that "Comrade Stalin is keeping his eye on your flight."²⁶⁴ Such "fatherly

²⁶¹ Evgenii Sholokh, "Esli nado, Kokkinaki doletit do Nagasaki...," *Vladivostok*, 26 June 1993, 6.

²⁶² Boyd, 67; Brontman and Khvat, 14; GSE, 1974 ed., s.v. "Aviation"; Sholokh, "Esli nado," 6.

²⁶³ Vladimir Kokkinaki i Aleksandr Briandinskii, "Nash Perelet," *Krasnoe znamia*, 2 July 1938, *; Sholokh, "Esli nado," 6.

²⁶⁴ *Ibid.*

concern" combined with a diet of nothing but a "buffet of coffee" spurred them on through dense cloud cover, past cyclones and skimming over treetops to reach the Far East in record time.²⁶⁵

The military significance of this flight was manifest. During post-flight speeches at the foot of Lenin's statue (near Vladivostok's train station), Kokkinaki, Party officials and the Pacific Fleet Commander encouraged Vladivostok residents not to fear Japan. Kokkinaki said, "If our Party and government says to 1,000 Soviet pilots to be in Vladivostok within a day--thousands of aircraft will appear here to defend our precious Socialist Motherland."²⁶⁶ The flight and its message to Japan gained national currency through a popular song whose chorus included:

If it is necessary,
Kokkinaki will fly to Nagasaki . . .²⁶⁷

Apparently such rhetoric was not enough to intimidate Japan. One month later, when NKVD (the state security organ prior to the KGB) troops occupied a strip of Manchukuo land along the Tumen River, the Kwantung Army responded forcibly in what was later called the Battle of Lake Khasan.²⁶⁸ In spite of the Japanese reaction, the two Soviet airmen remained heroes.

For their dazzling flight, Kokkinaki and Briandinskii both garnered the star signifying "Hero of the Soviet Union." For Kokkinaki, this was part of a string of previous and subsequent awards that made him possibly the most highly decorated pilot in Soviet

²⁶⁵ Kokkinaki and Briandinskii.

²⁶⁶ Sholokh, "Esli nado," 6.

²⁶⁷ Ibid.

²⁶⁸ *Narodnyi Kommissariat Vnutrennykh Del* means "People's Commissariat of Internal Affairs."

history. Born the son of a railway worker in Novorossiysk in 1904, his flying career spanned from 1931 to 1961. During that time, he set twenty-two world records, twice became a Hero of the Soviet Union, flew sixty-two different types of aircraft, and gained five orders of Lenin. Promoted to Major General in 1943, he concluded his public career as vice-president of the International Aviation Federation.²⁶⁹ He died in 1985 at the age of eighty-one. This was forty-seven years after his teammate perished. Briandiskii's rising star lasted only three months before it eclipsed while rescuing the crew of another epic flight over the Far East.

Moscow sensed that Kokkinaki's message and the Battle of Lake Khasan did not totally convince Japan. Thus, in September 1938, the Soviet Union dispatched an all-female crew to the Far East with a parallel message. The three "Stalin female eagles" included: Valentina Grizodubova (aircraft commander), Polina Osipenko (copilot), and Marina Raskova (navigator). The flight of these three women in the *Rodina* (Motherland) became one of the most famous demonstration flights cast toward Japan.²⁷⁰

Born in Kharkov in 1910, Valentina Stepanova Grizodubova continued her family's aviation tradition. The daughter of airman and aircraft designer S. V. Grizodubov completed flying club training in 1929, and she worked for the civil air fleet before commanding the *Rodina*.²⁷¹ During World War II, Colonel Grizodubova flew approximately 200 combat missions while in command of the 101st Long-Range Air Group that aided partisan bands. By the time of the *Rodina* flight, Grizodubova had

²⁶⁹ MERSH, s.v. "Kokkinaki, Vladimir K."

²⁷⁰ GSE, 1974 ed., s.v. "Aviation;" Iurii Kaminskii, "Vse znali o pobede. O tragedii prikazano bylo molchat' . . ." Golos 42 (18-24 Oct. 1993): 6.

²⁷¹ GSE, 1974 ed., s.v. "Grizodubova, Valentina Stepanova."

already chalked-up several speed and duration records. Her honors eventually included Hero of the Soviet Union, Order of Lenin, and Order of the Red Banner of Labor. In 1986, the Soviet government named her "Hero of Socialist Labor."²⁷² Along with her flying skills, she apparently maintained her personal bearings amidst the purges. During the late 1930s, she "openly spoke in the defense of incarcerated aviation colleagues." In particular, she joined Mikhail Gromov's petition to release S. P. Korolev from the Kolyma prison camps.²⁷³ Unlike her copilot, Grizodubova outlived Stalin.

According to an interview with Grizodubova in the 1970s, Polina Denisovna Osipenko had a more idyllic upbringing before entering the Soviet air fleet. Born a peasant in the village of Novopasovka (near Sea of Azov), she worked as a "poultry maid" before attending aviation school at Kacha (near the old tsarist flight school at Sevastopol). However, early in the program, instructors disenrolled her for substandard performance. An effective letter of appeal persuaded Voroshilov to grant an exception and reinstate her.²⁷⁴ Osipenko completed training in 1932 and later became a fighter flight commander. She ultimately established five world records, became a Hero of the Soviet Union, received two Orders of Lenin and the Red Banner of Labor, and rose to the rank of Major General. She died in a plane crash with test pilot Anatolii K. Serov on 11 May 1939. The government enshrined her ashes in the Kremlin wall and renamed Novopasovka in her honor.²⁷⁵ The *Rodina*'s navigator soon joined her.

²⁷² The annual indexes of *Current Digest of the Soviet Press*, from 1976 through 1994, do not mention Grizodubova under the headings of "Deaths" and "Funerals." According one biographical source, she was still living in 1989. *Sovetskii Entsiklopedicheskii Slovar'* (Moscow: Sovetskaia Entsiklopediia, 1989), 344.

²⁷³ Kaminskii, 6.

²⁷⁴ *Ibid.*; *MERSH*, s.v., "Osipenko, Polina Denisovna."

²⁷⁵ *MERSH*, s.v. "Osipenko, Polina Denisovna."



Fig. 4.6. Valentina S. Grizodubova, aircraft commander.



Fig. 4.7. Polina D. Osipenko, copilot. Fig. 4.8. Marina M. Raskova, navigator.
[Lazar' Konstantinovich Brontman and Lev Borisovich Khvat, The Heroic Flight of the "Rodina"
(Moscow: Foreign Languages Publishing House, 1938), 93, 97, 101.]

Marina Mikhailovna Raskova's (1912-1943) most notable achievement was her flight as the *Rodina*'s navigator. Born in Moscow to a musically talented family, she forsook a promising singing career in 1932. At that point, the state assigned her to work as a draftsman in the air-navigation laboratory of the Zhukovskii Air Force Academy.²⁷⁶ Some sources say she graduated from the Central Air Club pilot school in 1935 before joining the Red Army in 1938. After receiving the title "Hero of the Soviet Union" for the *Rodina* flight, she rose to the rank of major. In 1942, she assumed command of a women's bombardment regiment. She died in January 1943, while in the line of duty, and the government buried her remains in the Kremlin Wall.²⁷⁷

The interview with Grizodubova sheds further light on Raskova's professional dossier. According to that talk, Marina Raskova completed a correspondence course to become one of the first female navigators in the USSR, but the training was of little use to the *Rodina*'s crew. Grizodubova stated that Raskova had only "thirty total hours of flight experience" before the epic, 1938 flight. Apparently, she had to make time for other training as a secret member of the NKVD. Grizodubova later shared how she was convinced that, "Many people were injured because of Raskova."²⁷⁸ Aware of Raskova's dual identity, Grizodubova made repeated attempts to pull out of the *Rodina* mission.²⁷⁹ (See Figs. 4.6-4.8.)

Supervisors overrode Grizodubova's requests, and after suspenseful weeks of prolonged delay, they abruptly ordered the women, "Tomorrow morning, you will take off--get

²⁷⁶ Kaminskii, 6.

²⁷⁷ GSE, 1974 ed., s.v. "Raskova, Marina Mikhailovna."

²⁷⁸ Kaminskii, 6.

²⁷⁹ Ibid.

ready."²⁸⁰ From 24 to 25 September 1938, the three women pushed a modified (extra fuel cells), two-motor, Sukhoi ANT-37 to fly twenty-six hours and twenty-nine minutes. The 5,609.6 kilometer (3,486 mile) flight originated in Moscow, flew east over Siberia and crash-landed in the taiga's marshes near Komsomol'sk-na-Amure.²⁸¹ Official releases of the time hailed the flight a success, but the aircraft commander recalled otherwise.

Grizodubova's trials multiplied as Raskova proved to be a multidimensional liability. The crew departed for Siberia as the first signs of winter appeared. Thus, only 150 kilometers (ninety miles) into the flight, the *Rodina* hit solid overcast and they "did not see the ground until landing twenty-six hours later."²⁸² Soon thereafter, all radio equipment (receivers and transmitters) ceased functioning.²⁸³ To make matters worse, the intercom also failed and they had to communicate with Raskova by sending hand-written notes on a "string mail" system.²⁸⁴ Words from Grizodubova's interview describe the next moments:

From my place I saw the navigator station in the prow part of the cabin. I recall (how) Marina opened up the broken (radio) apparatus, and for a long time she screwed up something tightly. And we were flying . . . Where to? The unknown. Well, what if the connections had started to work? Two weeks before the flight, the specialist who was training (Raskova) in the use of the radio equipment "disappeared," that's how they indicated that they had arrested him. He did not even manage to tell the navigator where to change radio frequencies and station call signs. When an ice-covering began to accumulate, Marina opened the window in order to clean the rime ice from the

²⁸⁰ Ibid.

²⁸¹ Brontman and Khvat, 26; GSE, 1974 ed., s.v. "Aviation," "Grizodubova, Valentina Stepanova," "Sports Aviation."

²⁸² Kaminskii, 6; This might have happened. The seasonal average of cloud-cover over most of the route was above sixty percent according to maps projecting "cloudiness probability" cited in Sutton, 38-40.

²⁸³ Kaminskii, 6.

²⁸⁴ Brontman and Khvat, 50.

glass, and . . . every chart was sucked out of the aircraft. That's how our aircraft became not only deaf, but also blind.²⁸⁵

When asked how she managed to continue the flight, Grizodubova replied, "It was forbidden to not accomplish the assignment of the Vozhd!"²⁸⁶

After almost twenty-six hours of flight, the *Rodina* coasted out over the Sea of Okhotsk at Tugurskii Bay. Finally clear of clouds, Grizodubova began the search for a suitable landing sight, and calculations showed they had enough fuel for three more hours of flight. No sooner had they turned for Komsomol'sk-na-Amure than the red fuel-warning light came on--they had half an hour left.²⁸⁷ Faced with a belly-landing in the taiga that might crush the navigator's cabin, Grizodubova ordered (via "string mail") a resistant Raskova to bail out into the wilderness.²⁸⁸ After she left, the *Rodina* coasted several miles before it settled in a marshy bog. Thanks to Grizodubova's skillful landing, search crews found the aircraft "completely intact with not a single window broken out."²⁸⁹

Once mobilized, search parties had to canvass an estimated 1.5 million square kilometers between Khabarovsk, Ian, and Kazachinskoe (west of Lake Baikal).²⁹⁰ Due to the lack of radio contact, the loss remained "undiscovered" for almost a week after the *Rodina*'s departure. Starting on 30 September, hundreds of troops on foot, trackers on horseback and reindeer, fishermen and a combined fleet of fifty civil and military aircraft

²⁸⁵ Kaminskii, 6.

²⁸⁶ Ibid.

²⁸⁷ Brontman and Khvat, 51-52.

²⁸⁸ Ibid., 53.

²⁸⁹ Kaminskii, 6; Brontman and Khvat, 54.

²⁹⁰ Kaminskii, 6. This area covers roughly 579,000 square miles as compared to Alaska's total of 566,432 square miles.

began search efforts. Thanks to judicious guesswork, pilot Mikhail Sakharov spotted the *Rodina* and two living figures approximately 200 kilometers (124 miles) northwest of Komsomol'sk-na-Amure.²⁹¹ No doubt, Grizodubova and Osipenko were overwhelmed the next day to see Comrade Raskova emerge from the woods. For ten days, she survived in the swamps subsisting on a pocketful of chocolate mints and wild vegetation. Amidst snow flurries, she stumbled toward the noise of rescue aircraft wearing only one boot and her woolen underwear. She lost the rest of her garments in a bout with quicksand, a bear encounter and a narrow escape from a self-induced forest fire. Aircraft parachuted supplies to the reunited trio until a ground party arrived a few days later.²⁹²

Unlike the filtered 1938 releases, a post-Soviet source revealed that a mid-air collision occurred between two search aircraft on 4 October 1938. Apparently, both crews fixated on the ground activity while circling near the *Rodina*. The TB-3 (a heavy, four-engined Tupolev bomber) went out of control as its wing sheared off the tail of the twin-engined "Douglas."²⁹³ Only three escaped the TB-3, and all aboard the Li-2 perished, including new Hero of the Soviet Union, Alexander Briandinskii.²⁹⁴

Cleanup crews recovered the remains of Briandinskii and Mikhail Sorokin, the on-site military commander, and quietly buried them at Komsomol'sk-na-Amure. The entire

²⁹¹ Ibid.

²⁹² Brontman and Khvat, 72-79.

²⁹³ This was the Soviet version of the Douglas DC-3 built under contract as the Lisitkin Li-2. The later, upgraded version was renamed the Il'yushin Il-12. Jean Alexander, Russian Aircraft Since 1940 (London: Putnam, 1975), 107; Lloyd Mallan, Russia and the Big Red Lie (Greenwich, CT: Fawcet, 1959), 119.

²⁹⁴ Kaminskii, 6.

incident as well as the other bodies remained unceremoniously forgotten until 1968 when hunters found the wreckage and human remains in the taiga.²⁹⁵

Briandinskii's death heightened the political sensitivities of this demonstration of Soviet aviation might vis-à-vis Japan (and Germany). During ceremonies in Moscow, Stalin bequeathed the title "Hero of the Soviet Union" and a lump sum of 25,000 rubles to each crewmember of the *Rodina*.²⁹⁶ He also made the comment how, "The lives of hero-pilots were more dear than the taking of records."²⁹⁷ Under the threat of the Gulag, this was the only public hint for thirty years that something went wrong.²⁹⁸ No one dared undercut the effectiveness of the *Rodina*'s warning to Japan that Soviet pilots, men and women, would bear down on further "provocation."²⁹⁹

As this chapter shows, visions of peaceful aviation ties between Japan and the Soviet Union quickly withered. At the very time technology could have made such connections possible, military calculations undercut any serious considerations for developing civil air routes with Japan. Instead, epic flights of pseudo-civil Soviet aviation served to rebuff Japan and raise public morale in the Far East as the two nations anticipated the other's next move.³⁰⁰ Amidst this standoff, American aviators tried to build a bridge to the Far East.

²⁹⁵ Ibid.; A memorial obelisk, raised by the "initiative of the local residents" stands on the shores of the Amgun River. The granite wing shaped memorial points upward and has a simple inscription "To the crew of the *Rodina*." Khabarovskii krai god 1971: liudi, sobytiiia, fakti. (Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1972), 70.

²⁹⁶ Brontman and Khvat, 7.

²⁹⁷ Kaminskii, 6.

²⁹⁸ Ibid.

²⁹⁹ Brontman and Khvat, 10; Danilenko, Kryl'ia Dalnego Vostoka, 54.

³⁰⁰ "G-2 Military Attaché Report No. 1273, 18 July 1939," in U.S. Military Intelligence Reports: The Soviet Union 1919-1941 (Frederick, MD: University Publications of America, Inc., 1984), reel 7, frame 844, microfilm.

CHAPTER 5

THE ARC AND AMERICAN ENGAGEMENTS

In 1971, a Soviet interviewer asked Director of the Far Eastern Civil Aviation Administration, Boris Grigor'evich Ezherskii, what aviation academy graduates should study next. He immediately replied:

(They should) study the English language.
The Americans are flying to us.³⁰¹

Indeed, sporadic flights between America and the Far East reached back several decades. The lure of an efficient northern route between North America and Asia inspired visionaries in previous centuries.³⁰² Similar thinking prompted aerial ventures across the North Pacific arc. However, a mix of adverse climate and politics hindered the early development of such ties to the Far East.

Great Circle Routing and the Far East

At this point, the Far East's prominent North Pacific position merits explanation here for at least three reasons: 1) it affected the history of Far East aviation, 2) it stands as a

³⁰¹ Danilenko, *Kryl'ia Dainego Vostoka*, 72.

³⁰² With Thomas Jefferson's encouragement and the aid of others, American explorer John Ledyard visited St. Petersburg in 1787 and set out across Siberia. Aspirations for an extended eastward journey that included traversing North America ended rather abruptly. Ledyard got as far as Yakutsk before Catherine the Great expelled him in 1788--most likely in fear of losing control of her North American colonies. Stephen D. Watrous, introduction to *John Ledyard's Journey Through Russia and Siberia, 1787-1788: The Journal and Selected Letters*, ed. Stephen D. Watrous (Madison, WI: The University of Wisconsin Press, 1966), 37-52.

reminder of lost opportunities, and 3) because it still commands desirous great circle air routes between Asian and North American economies.³⁰³ By passing an imaginary plane through the earth's center and tracing its intersection with the surface, one can plot the shortest route between two points in a great circle. (See Fig. 5.1 next page.) According to John Curtis Perry, the first to make this a practical application was U.S. Navy Lieutenant Matthew Fontaine Maury.³⁰⁴ In 1848, he abandoned the distorted Mercator view of the world and noted that travel between California and China is much shorter via the Aleutians than by way of Hawaii. He labeled the arc along the North Pacific littoral as "the great highway from America to the Indies." Perry more accurately calls it the "great commercial circle of the Orient."³⁰⁵

Unfortunately, shipping technology lagged too far behind to immediately capitalize on Maury's perception. Sailing vessels of the day depended more on winds and currents that favored southerly routes. When coal-hungry steam ships replaced sailing vessels, they still took the longer Hawaii route. Numerous fog-shrouded islands and Russian ownership of the Aleutians at the time discouraged both refueling at Dutch Harbor and use of Maury's route.³⁰⁶ Nevertheless, as ship technology advanced to permit unrefueled Pacific transit, great circle routing became and remains standard practice. For example, if you transit between San Francisco and Vladivostok (Similar to San Francisco-Tokyo) via roughly constant latitude (commonly referred to as a "rhumbline" course), you travel

³⁰³ Commercial air carriers recently sought such routing to save five hours flight time between New York and Hong Kong via Far East airspace. Michael Westlake, "Silk Roads of the Air," Far Eastern Economic Review 155 (16 July 1992): 4.

³⁰⁴ Perry, 74.

³⁰⁵ *Ibid.*

³⁰⁶ *Ibid.*, 74-75.

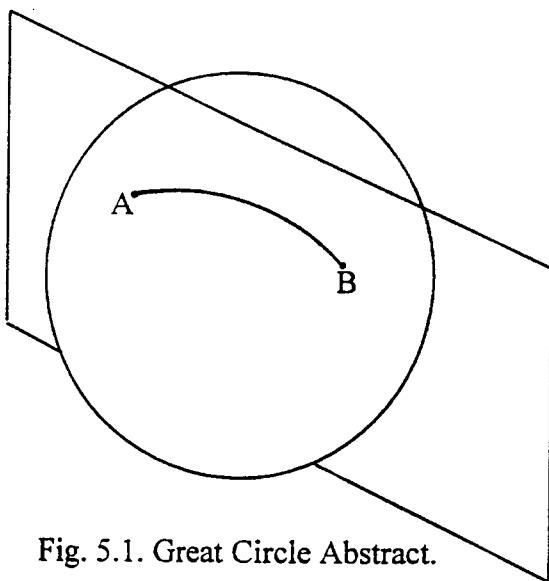


Fig. 5.1. Great Circle Abstract.

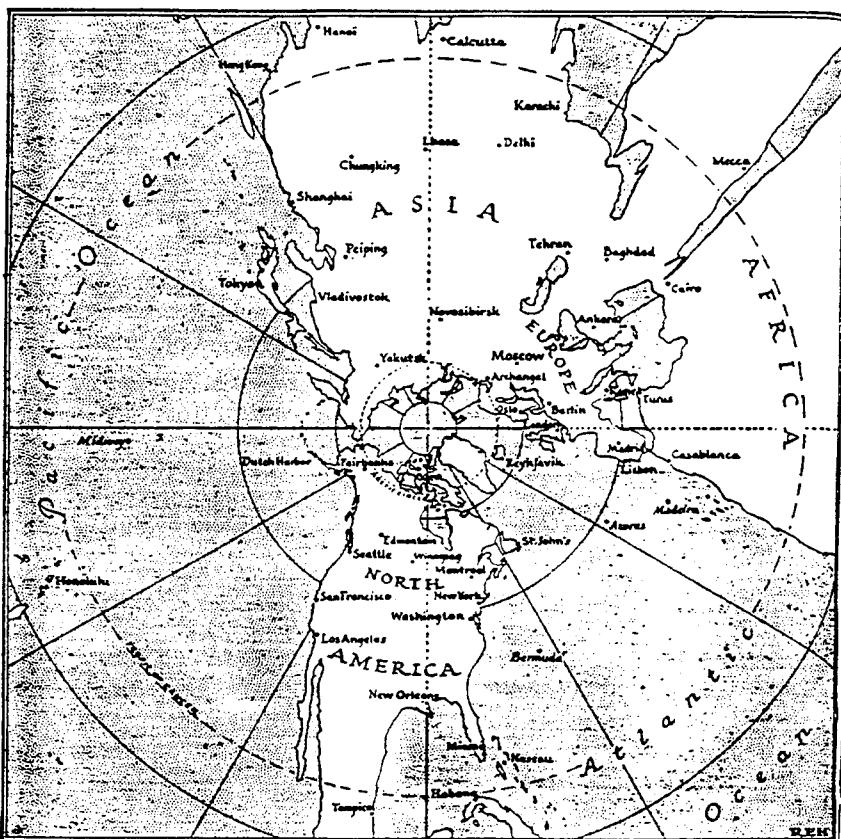


Fig. 5.2. "This pole-centered map, containing all of the North Temperate and Arctic Zones, is on the gnomonic projection (called by navigators a great-circle chart). A straight line on it in any direction is a true great circle, and therefore indicates the shortest route between any two points on it. Although a very misleading map for comparative distances, it serves to demonstrate clearly the northward course of routes connecting the power centers of the world."

[Graham B. Grosvenor, "The Northward Course of Aviation," in Compass of the World: A Symposium on Political Geography, ed. Hans Werner Weigert and Vilhjalmur Stefansson (New York: MacMillan, 1944), 314.]

4,850 nautical miles. On the other hand, great circle routing to the north only requires 4,484 nautical miles.³⁰⁷ For a ship averaging twenty-five knots, the great circle shaves an entire day off its route, and it saves almost an entire hour for today's modern jet aircraft. This is especially valuable since transoceanic jet aircraft burn a conservative average of \$1,500 each hour on fuel alone. Thus, today many of the primary nonstop air routes between North America and the Orient arc along the Aleutians, Kamchatka and the Kurils. Maury was right, and variations of his route hold a portion of Far East aviation history.

During the 1920s and 30s, passenger aircraft did not have the capability for nonstop, overwater flights across the Pacific. Lack of adequate weather forecasts also required the availability of several divert options. The average cruise speed of 100 to 150 miles per hour also necessitated stops to alleviate crew and passenger fatigue as well as resupply. As late as 1944, Owen Lattimore and others still extolled northern great circle routing (see Fig. 5.2) "between any two points in North America and Asia because it combined: 1) the shortest flying time, 2) maximum flight over land, and 3) minimum flight over water."³⁰⁸ Among other things, Lattimore must have drawn these conclusions from the experiences of early flights that took place along the North Pacific arc.

³⁰⁷ POFC Keefe, phone interview by author, 26 Oct. 1995, Honolulu, HI, Defense Mapping Agency, Pearl Harbor.

³⁰⁸ Owen Lattimore, "The Inland Crossroads of Asia," in Compass of the World: A Symposium on Political Geography, eds. Hans W. Weigert and Vilhjalmur Stefansson (New York: MacMillan, 1944), 375.

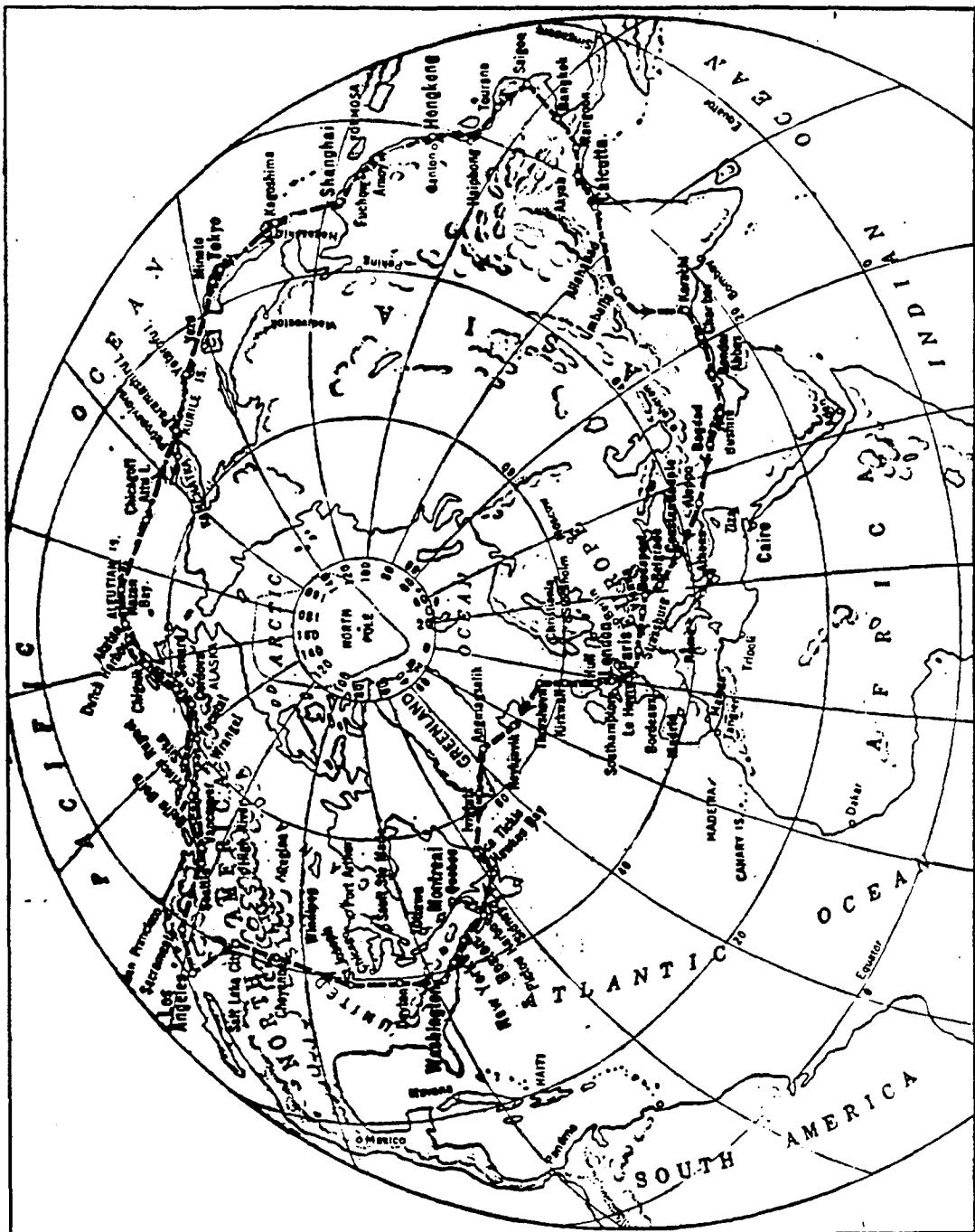


Fig. 5.3. Route of the 1924 American Flight.
[Circumnavigating the Globe, "The Literary Digest 82 (13 Sep. 1924), 14.]

Early Flights

Air travel connecting the Far East brought both visions and mixed results. On 28 August 1919, almost six weeks after their 15 July departure, four United States Army De Havilland D.H. 4-B airplanes flew from New York to Alaska, crossed the Bering Strait, and orbited over Siberia to symbolically "link the hemispheres." The press hailed that flight, commanded by Captain St. Clair Street, as the "most significant aviation event of the Western Hemisphere" for that year.³⁰⁹ Two years later, the American arctic explorer, Vilhjalmur Stefansson, gained Canadian government permission and settled five Canadians and an Eskimo woman on Wrangel Island. The Canadian-born Stefansson envisioned using this island eighty-five miles north of the Chukotka peninsula as a refueling point for transpolar aviation.³¹⁰ He saw great circle, polar routes as the solution to reaching the Orient. As he put it in 1922, "It is almost about to become . . . commonplace that you can go east by flying north."³¹¹ The island's six-person settlement lasted only two years before Stefansson "sold" it in 1923, but designs upon the arctic and great circle routes to the Orient persisted with Stefansson and others.³¹²

On 6 April 1924, a flight of four U.S. Army Douglas DT-2 biplanes departed Seattle averaging seventy miles per hour to eventually complete the world's first circumnavigation by air. (See Fig. 5.3.) Escorting U.S. Navy ships supplied their provisions at remote stops.³¹³ The first section of their five and a half month journey went

³⁰⁹ "From New York to Nome to Siberia by Air," Literary Digest (11 Sep. 1920), 95.

³¹⁰ Stephan, The Russian Far East, 161.

³¹¹ Vilhjalmur Stefansson, "The Arctic as an Air Route of the Future," National Geographic 42 (Aug. 1922): 205-207.

³¹² Stephan, The Russian Far East, 161.

³¹³ Perry, 215.

along the North Pacific arc. The longest single leg of 605 miles was between Sitka and Seward, Alaska.³¹⁴ Enroute, Lieutenants Lowell Smith, Erik Nelson, Leslie Arnold, Jack Harding and their other teammembers completely avoided Russian Far East soil and its uncertain post-civil war government. They jumped from the American-held island of Attu, bypassed Kamchatka, and landed on the (then) Japanese-held island of Paramushir at the northernmost end of the Kuril chain.³¹⁵ They surprised its seasonal fishermen and cannery workers before enjoying a more complete rest in Tokyo.³¹⁶

While all flight members survived the 1924 ordeal, not every one of them completed the itinerary. A crash into an Alaskan mountainside eliminated the original flight leader, and the group replaced a second aircraft after its forced landing in the North Atlantic.³¹⁷ Six of the original eight pilots finished the journey (the four mentioned were the only ones to fly the entire way), and only two of the original aircraft made it back to Seattle.³¹⁸

Thereafter, the next, and by far more successful, crossing of the North Pacific came in August of 1929. Serapinin (see page 66) must have felt some bittersweet vindication when the Graf Zeppelin, under Dr. Hugo Eckener's command, paused in Tokyo. Between 8 August and 29 August 1929, Eckener's global circumnavigation used great circle routing to expedite each leg of his twenty-one day journey from Berlin to Lakehurst, New Jersey. Although Weimar Germany and the Bolshevik regime enjoyed a symbiotic aviation relationship in western Russia, Eckener bypassed Moscow due to weather. He

³¹⁴ Ibid.

³¹⁵ "Circumnavigating the Globe," The Literary Digest 82 (13 Sep. 1924): 14.

³¹⁶ Ibid.; Stephan, The Kuril Islands, 93-98.

³¹⁷ Gwynn-Jones, 43.

³¹⁸ "Circumnavigating the Globe," 15.

arced across Northern Siberia, but the closest he came to landing in the Far East was when he scraped over the Stanovoy Mountains.³¹⁹ Eckener's dirigible flight between Tokyo and Los Angeles along the great circle presaged subsequent modes of air travel. Nevertheless, fixed wing aircraft eventually dominated that route's destiny in the wake of improved technology and 1937's Hindenburg tragedy at Lakehurst.³²⁰

Eckener's honest, but embarrassing, slight mildly stung the Soviet Union. Pravda warned eager promoters of a Berlin-Tokyo air service that such a road "runs through Moscow."³²¹ What probably stung more at the time, however, was the fate of the Soviet aircraft that planned to "race" Eckener to America.

Strana Sovetov (I& II)

At 3:00 A. M., 8 August 1929, the Soviets launched the silver-sided *Strana Sovetov* (Land of the Soviets) on their own flight for America. This aircraft's intended east-bound path was slightly south and parallel to the Graf Zeppelin's course. Each crew departed their respective capital on the same day, and initially, the Soviet aircraft outpaced the German dirigible.³²² This promised to be a tremendous boost to Soviet prestige.

The flight had to succeed, and the Soviets spared no effort in preparing the aircraft and crew. Entirely of Soviet manufacture, the *Strana Sovetov* was a corrugated duralumin-siding, Tupolev ANT-4 that weighed eight tons at takeoff. Two 600-

³¹⁹ Richard E. Byrd, "The First Airship Flight Around the World," National Geographic 57 (Jun. 1930), 675; Perry, 199.

³²⁰ Ibid., 202.

³²¹ The Soviet Union tolerated the Graf Zeppelin's carrying machine guns and rifles for its trans-Siberian leg, but they were adamant about subsequent trips stopping in Moscow. "Reds Annoyed at Zeppelin," New York Times, 23 Aug. 1929, 3.

³²² On the first day, the western press described the Soviets as a "lap ahead" in "Red Plane Reaches Omsk in Record Time," New York Times, 9 Aug. 1929, 6.

horsepower engines designed by BMW propelled the cantilever monoplane at an average of 169 kilometers per hour (about 106 miles per hour). Its three-ton fuel capacity gave it a range of 3,000 to 4,000 kilometers (1,863 to 2,484 miles).³²³ To maximize the plane's range, authorities allowed "no correspondents or stowaways" on board, and to enhance the crew's endurance, provisions included coffee, chocolate, apples and meat, but "no vodka."³²⁴ The Soviets also tasked one of their most experienced pilots to lead the mission. Retracing some of his previous 1927 route to Tokyo, Semen Aleksandrovich Shestakov led a team of three others: copilot Filia Efimovich Bolotov, navigator Boris V. Sterligov and mechanic (the same one from 1927) Dmitri V. Fufaev.³²⁵ All went well for the first three hops.

Between 8 and 10 August 1929, the *Strana Sovetov* landed at Omsk, Novosibirsk and Krasnoyarsk. On 14 August, while enroute to Chita, engine trouble forced it down in a forested region 273 kilometers (170 miles) east of Irkutsk. The plane had covered almost 6,000 kilometers (3,726 miles) in thirty-six flight hours, but it would go no further. Damaged beyond repair, the plane remained in the Transbaikal region while the crew flew back on a passenger plane to undergo trial by a commission of inquiry.³²⁶ Fortunately, the investigation cleared the crew of responsibility for the accident, and the government scheduled them for a second attempt to America in an identical aircraft.³²⁷

³²³ New York Times, 6 Aug. 1929, 8.

³²⁴ Boris Sterligov cited by Walter Duranty, "Soviet Fliers Start for here Tomorrow," New York Times, 6 Aug. 1929, 8.

³²⁵ New York Times, 9 Aug. 1929, 6.

³²⁶ New York Times, 20 Aug. 1929, 2.

³²⁷ "Red Flier Starts Here Again," New York Times, 23 Aug. 1929, 3.

Determined to reach New York, the new *Strana Sovetov* departed on 23 August 1929. Its projected itinerary across the Far East and the North Pacific included stops at: Chita, Khabarovsk, Nikolayevsk-na-Amure, Petropavlovsk, Attu, Dutch Harbor, Seward, Sitka and Seattle. From Washington state, they planned to visit San Francisco, Cheyenne, Chicago and New York.³²⁸ Enroute weather overrode these plans and caused delays, course deviations, and some near mishaps.

The North Pacific was the most hazardous portion of their journey. After refitting with pontoons at Khabarovsk and a stop at Nikolayevsk-na-Amure, they ran into a snowstorm over the Sea of Okhotsk.³²⁹ According to the crew, they flew blind barely five feet above the water for almost ten hours before reaching Petropavlovsk-Kamchatskii.³³⁰ A tremendous gale almost smashed the plane against rocks when it reached Dutch Harbor. Crews from the U.S. Coast Guard cutters Chelan and Haida struggled for two hours to secure the plane to a mooring buoy, while giving the aircrew food and dry clothing aboard the Chelan.³³¹ When the Soviet airmen departed Dutch Harbor, engine trouble forced an early landing at Waterfall, Alaska on 3 October. They delayed there ten days while mechanics installed a new engine. The Pacific Fleet ship *Krasnyi Vympel* (Red Pennant) escorted the flight's ocean crossing supplying such technical assistance as well as fuel.³³² By comparison, flight conditions across the continental United States were much more

³²⁸ "Soviet Plane Flying here by way of Alaska," New York Times, 24 Aug. 1929, 2.

³²⁹ "Russia's Flyers and Lindy's Graceful Greeting," The Literary Digest 103 (23 Nov. 1929): 46; Evgenii Sholokh, "Besprimernyi perelet," Vechemni Vladivostok 49 (23 Sep. 1989), 5.

³³⁰ "Russia's Flyers and Lindy's Graceful Greeting," 46.

³³¹ "Soviet Fliers Saved by Boats at Unalaska," New York Times, 25 Sep. 1929, 8.

³³² Sholokh, "Besprimernyi perelet," 5.



Fig. 5.4. The *Strana Sovetov* in New York.
["Russia's Flyers and Lindy's Graceful Greeting," *The Literary Digest* 103 (23 Nov. 1929): 45.]

favorable, and the crew had time for Henry Ford to personally entertain them while in Detroit.³³³

On 1 November, the second *Strana Sovetov* touched down at Curtis Field, Long Island, and its four-plane escort included two Ford tri-motors. Their total trip covered 21,400 kilometers (13,300 miles) with a total flying time of 141 hours and 23 minutes. A tumultuous crowd, with thousands wearing the red arm-band of the Friends of Soviet Russia, rushed police lines and ran to the aircraft while it taxied toward the hangar. Shestakov had to wheel around and repulse the mob with a propeller blast of sand and dust. Moments after they secured the plane in the hangar, another notable aviator landed creating further pandemonium. The crowd's frenzy convinced organizers to abandon the program of planned speeches.³³⁴ (See Fig. 5.4.)

Orations aside, the Soviets still did their best to maximize their opportunity. The plane's arrival in New York coincided with the visit of a Soviet air delegation led by P. I. Baranov, then head of the Soviet air fleet. This group sought to procure powerful radial engines and aircraft design technology.³³⁵ To offer further incentive, Moscow made promising press releases. Joseph Unshlikt, then head of Soviet military aviation, said:

The flight is of tremendous importance, as it establishes air connections between the Soviet Union and the United States by way of the Pacific Ocean. The success of our flyers in reaching their goal will undoubtedly help to strengthen economic and cultural relations between our country and the United States.³³⁶

³³³ "Russia's Flyers and Lindy's Graceful Greeting," 45.

³³⁴ Lindbergh ducked with embarrassment from the top of the hangar when Shestakov pointed out that the crowd's cheers were for him. *Ibid.*

³³⁵ Boyd, 27.

³³⁶ "Russia's Flyers and Lindy's Graceful Greeting," 45.

Anastas Mikoyan, Soviet Commissar of Commerce voiced a similar opinion. He believed:

The *Strana Sovets* . . . opened a path for possible passenger flights and trade transportation from the Soviet Far East to the United States by establishing a basis for regular air service between Vladivostok, Sakhalin, and Kamchatka.³³⁷

Such overtures met a rather cool reception from the U.S. government.

The Soviets expressed displeasure when they received no official invitation from the White House to fly to Washington. Pravda was rather blunt in its assessment stating that Hoover feared such a move might be interpreted as a step toward Soviet recognition. Moscow's press further asserted that while official Washington cared little about the success of their flight, the "real bosses of America, like Ford, were compelled to be polite to the Russians . . . because of their desire to do business" with the Soviet Union.³³⁸

In reply, State Department officials claimed that Shestakov's crew flew as "private citizens, and the United States Government (had) not invited to Washington any flyers engaged in such a project."³³⁹ That same statement reminded Moscow that Dr. Hugo Eckener and the Graf Zeppelin received no invitation to the U.S. capital, and officials saw no reason to alter their policy for Soviet airmen. Though true, Washington's diplomatic channels had approved overflight and provisioning arrangements for the *Strana Sovetov* in July of that year.³⁴⁰ Here, one may also observe that, unlike the Graf Zeppelin, this highly publicized flight made no effort to visit Japanese territory. Nevertheless, the

³³⁷ Ibid.

³³⁸ Ibid.

³³⁹ Ibid.

³⁴⁰ "Grant Soviet Fliers Right to Land Here," New York Times, 25 July 1929, 52.

Strana Sovetov's flight did make a favorable impression on several Americans, including Charles Lindbergh who enthusiastically greeted them in Seattle and New York.³⁴¹

Pan American

Two years later, on 27 July 1931, Charles and Anne Lindbergh, ostensibly on a private excursion, departed College Point, Long Island, New York to survey a northern great circle route to the Orient. Claims of a private excursion were but a red herring because Colonel Lindbergh worked as an advisor to Pan American Airlines magnate, Juan Trippe.³⁴² In close concert with Pan Am, the Lindberghs meticulously planned an itinerary that took them up over the northern periphery of Canada and Alaska to Nome, past the Bering Strait, down along the Soviet Chukhotka and Kamchatka coasts, through Japan, and finally to Hankow, China.³⁴³ Thanks to better equipment, this journey was not quite as arduous as that of their Army and Soviet predecessors.

The Lindbergh's Lockheed Vega, dubbed the Sirius, was a 600-horsepower, single-engined, all-wood, low-wing, twin-float, monoplane with enough fuel capacity for flight legs of 2,100 miles at 118 miles per hour: it served them well against most of nature's hazards. After refueling in Nome, Alaska, they flew across the Bering Sea to Karaginsky Island, population 136, a fur station off the coast of Soviet Kamchatka. A picture of a cat broke the monotony of bear, ermine, and red fox hides that hung everywhere else. Here, the Lindbergh's enjoyed a meal of meat, fresh milk, and wild strawberries. They also attempted conversation through Anne's bad French and their hosts' limited English. At

³⁴¹ Perry, 215; "Russia's Flyers and Lindy's Graceful Greeting," 45.

³⁴² Robert Daley, An American Saga: Juan Trippe and His Pan Am Empire (New York: Random House, 1980), 110.

³⁴³ Ibid., 112.

their next stop, Petropavlosk, the pair lodged in a government building decorated with posters of "Lenin, laborers, capitalists and tractors."³⁴⁴ Their room's amenities included a third cot for their non-existent mechanic, two complimentary razors and a bottle of perfume. Midnight commotion over a fire in the downstairs office files interrupted an otherwise restful night.³⁴⁵ After repeated close calls in Japan's fog banks and starving mobs in certain Chinese provinces, the journey ended when flood currents in the Yangtze River ruined the aircraft. The crew of the British aircraft carrier Hermes hauled them and the plane on board, and the couple returned to the United States by steamship just two months before the Manchurian Incident.³⁴⁶

Weeks later, Lindbergh reported to Trippe that the northern route to the Orient was feasible. By Lindbergh's estimates, Pan Am could open the route immediately. Winter darkness, airfield construction, and stations for radio navigation posed only technical problems. Lindbergh's flight inspired Trippe to further visions of expansion into Asia and Russia. Upon reaching Siberia, he reasoned, an airman could easily follow the Trans-Siberian Railway all the way to Moscow. Shortly thereafter, Trippe took initial steps and bought up two small aviation companies in Alaska and formed 2,000 miles of routes under Pacific-Alaska Airways.³⁴⁷

By that fall, Trippe secured permission through AMTORG, the Soviet government trading agency, to operate an airline on Soviet territory across Siberia as far as Moscow. In exchange, Pan American agreed to build permanent hangers along the route to train

³⁴⁴ Anne Morrow Lindbergh, North to the Orient (New York: Harcourt, Brace and Co., 1935), 138-143.

³⁴⁵ Ibid., 143-145.

³⁴⁶ Daley, 111-115.

³⁴⁷ Ibid., 116.

Russian pilots.³⁴⁸ Trippe's Far East visions soon withered. The Soviets refused to pay Russian war debts, and the United States government still refused to recognize the Bolshevik government. The State Department pressed Trippe to cancel his air route to Moscow, and he complied.³⁴⁹

Hopes revived when the United States recognized the Soviet Union on 16 November 1933. Good will further flourished when Pan Am helped the Soviets rescue crewmembers from the sunken freighter *Cheliuskin* in March 1934 (see page 78).³⁵⁰ It may be of some interest that, along with the two light aircraft purchased from Pan Am at Nome, American flight mechanics Clyde Williams and William Levari also participated in the arctic rescue. Later, the Soviets gave them a celebrity welcome in Moscow.³⁵¹ Within weeks of that rescue, Trippe then sent arctic explorer and former Wrangel Island visionary, Dr. Vilhjalmur Stefansson (employed by Trippe since 1932) with another Pan American delegation to strike a deal with the Soviets.³⁵² Pan Am proposed routes between Alaska, Vladivostok, and Peking, but these efforts did not have everyone's approval.

From 1931 on, Japan's opposition toward U.S.-Soviet aerial ties increased as Pan American built its network throughout the Pacific. Moreover, Soviet hesitancy to form such ties increased as Japan's fear of encirclement grew. In 1933, Pan American bought

³⁴⁸ Bartow, 69 citing Pan American Airways, Inc., "History of Pan American Air Services to and through Alaska, Exhibit PA-113," CAB Docket No. 547 et al., Pacific Certificate Proceeding (New York, 1944), 2. Hereafter cited as PA-113; Daley, 116.

³⁴⁹ Ibid., 135.

³⁵⁰ Stephan, The Russian Far East, 226; Bartow, 69.

³⁵¹ Babushkin, 145.

³⁵² Stephan, The Russian Far East, 161; Graham B. Grosvenor, "The Northward Course of Aviation," in Compass of the World: A Symposium on Political Geography, eds. Hans Werner Weigert and Vilhjalmur Stefansson, (New York: MacMillan, 1944), 329.

forty-five percent of the stock of the China National Aviation Corporation, and Japanese government officials asserted that joint operations with China would "disturb the peace in East Asia . . . (and) Japan (would) oppose such projects."³⁵³ According to Joseph C. Grew, the attempt to build a North Pacific great circle route with the Soviet Union drew criticism from Admiral Nobumasa Suetsugu (a prominent member of the "Fleet Faction" in the Imperial Japanese Navy) in a 1934 edition of Gendai magazine in which he stated:

The Lindberghs came, and they delayed in the Kuril Islands for a week saying it was bad weather yesterday, and again today. They flew and returned. It may be imagination of course, but it is equally possible that they reconnoitered in that part of the country. What are the Americans doing now? They are continuing since then (with) surveying corps, telegraph corps, and aviation corps, etc. What does all this point to? Then they have resumed diplomatic relations with Soviet Russia. Of course we can see economic motives in this, but it is possible to say that they may have had in view the possibility of surrounding Japan in all directions with their warlike preparations. Soviet Russia is concentrating efficient bombing planes and making war preparations in the Far East . . . We must expect a large air force will be brought by the large fleet across the Pacific . . .³⁵⁴

Understandably, the Soviets forsook the chance to extract technical advice and develop commercial air ties between America and the Far East. Negotiations bogged down over "political concerns," and, in early 1935, Trippe elected to develop a longer, but more attainable Central Pacific route instead.³⁵⁵ Consequently, its divergent course via Wake Island added approximately 8,000 kilometers (5,000 miles) to the total journey one might make between Chicago and Vladivostok.³⁵⁶ Although Pan American had no

³⁵³ Bartow, 53 citing United States Department of State, Papers Relating to the Foreign Relations of the United States and Japan, 1931-1941 (Washington, DC, 1943), I, 253.

³⁵⁴ Joseph C. Grew, Turbulent Era, A Diplomatic Record of Forty Years, 1904-1945 (Boston, MA: Houghton Mifflin, 1952), 111.

³⁵⁵ Bartow, 72.

³⁵⁶ "Bridge to Asia: Alaska, Long Forgotten, Becomes a Hot Spot in U.S. Strategy," Fortune, Mar. 1942, 94.

Soviet assistance or competition in the Pacific, it had plenty of the latter from other nations.

Until the outbreak of war, air routes blossomed in the Pacific in a mixture of imperialism and commercial competition while Russia remained a wall-flower developing "socialism in one country." Nations carved out exclusive aerial niches and frequently denied access to one another. For example, the United States refused Hawaiian landing rights to Britain in fear of having to grant the same to Japan, and Pan American could not access Australia. By 1941, British Airways and its subsidiaries connected Europe, the Mediterranean, and the Middle East with stops in Delhi, Calcutta, Rangoon and Bangkok. British aircraft also connected Taiwan, Hong Kong, Hanoi, and Darwin. The Dutch Koninklijke Luchtvaart Maatshappij (K.L.M.) airlines paralleled Britain eastward then branched from Calcutta to Bangkok, Penang, Medan, Singapore and Sydney. The French lines also followed British routes to Bangkok thence to Saigon, Hanoi and Hong Kong. Prewar Japanese air routes focused primarily on Chinese coastal cities under direct Japanese control, Manchukuo and Korea. The U.S. flagship airline, Pan American, opened its 8,000 mile route from California to Manila (via Honolulu, Midway, Wake, and Guam) in 1935.³⁵⁷ Overall, political antipathy undercut the international cooperation needed to develop the Orient's Great Commercial Circle by air at that time. Pan Am's efforts represented the first and only serious effort to open up commercial air routes with Russia's Far East until the late 1960s and early 1970s. However, Admiral Suetsugu's premonitions almost came true.

³⁵⁷ Kirk, 295-301.

Lend-Lease and World War II

The Far East's World War II experience illustrates not only trepidation toward Japan, but also how its geographic position endures as a resource in the aviation age. In March of 1941, the United States government inaugurated the Lend-Lease Act to prop up Britain against German attack. Nine days after the start of Operation Barbarosa (21 June 1941) Stalin also petitioned the U.S. for assistance. Roosevelt placed a high priority on meeting Russia's requests and established generous terms in a mix of pragmatism and expediency. Besides dividing allocations between allies and its own war-fighting needs, the U.S. faced the problem of transportation. Heavy German submarine activity limited use of the North Atlantic route across to Murmansk and Arkhangel'sk. The other routes through the Persian Gulf and to Far Eastern ports were safer, but farther from Europe's front lines. Considerations for safety overruled and by war's end the Far East received 46 % of the total 10 billion dollars worth of Russian Lend-Lease aid with 23 % going to the North Atlantic route, 28 % through the Persian Gulf and 3 % traversing the Soviet Arctic.³⁵⁸ The specific percentages for aircraft transfer through the Far East along a great circle route ran even higher.

Although Soviet history is rather mute, between September 1941 and September 1945, America delivered a total of 14,203 aircraft to Russia.³⁵⁹ The first flight of five A-20 light bombers left Gore Field at Great Falls, Montana on 1 September 1942. Proceeding to Edmonton, Alberta, Fort Nelson, British Columbia, and Whitehorse,

³⁵⁸ Robert Huhn Jones, The Roads to Russia: U. S. Lend-Lease to the Soviet Union (Norman: University of Oklahoma Press, 1969), 212, 290.

³⁵⁹ *Ibid.*, 212.

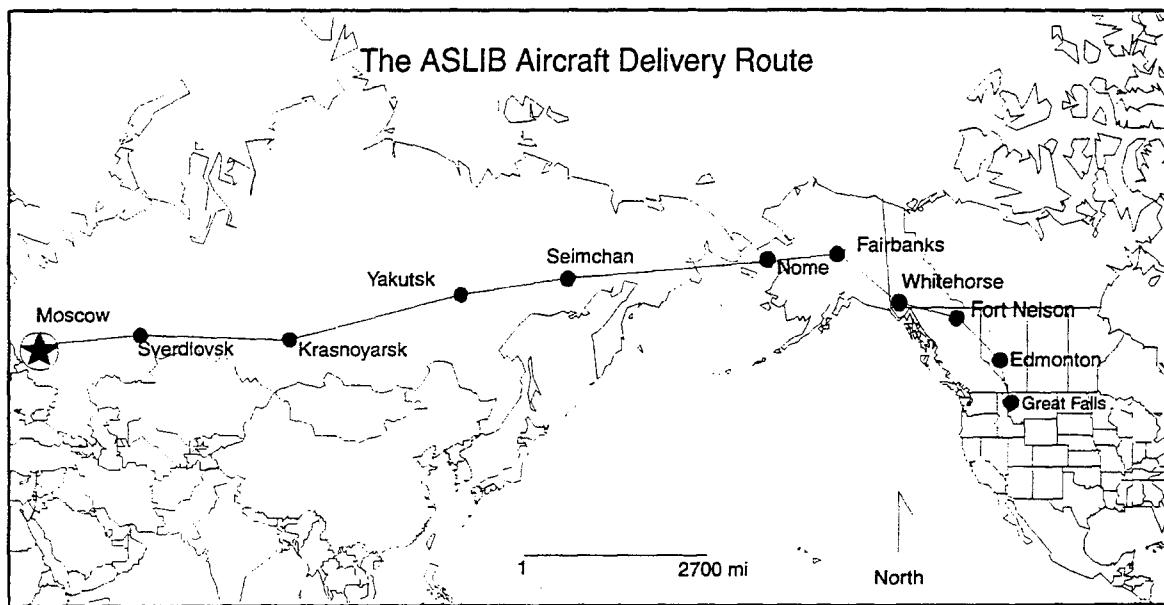


Fig. 5.5. The ALSIB Aircraft Delivery Route.
[Courtesy of Robert B. Valliant]

Yukon Territory, the American crews terminated their mission at Fairbanks, Alaska. From Fairbanks, Russian aircrews flew in succession to Seimchan (near Magadan), Yakutsk, Krasnoyarsk, Sverdlovsk and finally Moscow.³⁶⁰ This route's projection across northern Siberia expedited delivery to the European front. (See Fig. 5.5.) One might also observe that it stayed well clear of common borders with Japan, though more southerly routing would have doubtless been less hazardous. Airframes delivered across Siberia's expanse included P-39 and P-63 fighters, A-20 light bombers, B-25 medium bombers, and C-47 cargo planes.³⁶¹ In all, 7,925 aircraft, over 56% of these, flew over the Alaska-Siberia Air Ferry Route (ALSIB). These aircraft arrived in shorter time and ready for immediate use while those delivered by other routes came in crates.³⁶²

The United States also wanted desperately to secure air bases in the Far East along the Great Circle route to bomb Japan's home islands.³⁶³ However, the Soviets maintained strict neutrality towards Japan and refused all requests for Lend-Lease operations to expand into American air bases in the Far East. Moscow did not want to provoke a second front with Japan, and senior U.S. strategists concurred.³⁶⁴ One manifestation of this policy was the internment of the 291 American aircrewmen who ditched their damaged aircraft in Soviet territory. Between 1942 and 1945, thirty-six crews, including members of Doolittle's Tokyo raid, spent up to thirteen months in Soviet detention. Most

³⁶⁰ Robert H. Jones, 157.

³⁶¹ Ibid., 279; Ernest R. May, "The United States, the Soviet Union, and the Far Eastern War, 1941-45," *Pacific Historical Review* 24 (May 1955), 153.

³⁶² Robert H. Jones, 212.

³⁶³ May, 153.

³⁶⁴ Robert H. Jones, 157.

made clandestine "escapes" into Iran, and all gained release by the war's end.³⁶⁵ The only American servicemen to gain official entry into the Far East were ninety-three U.S. Navy weather forecasters. Ironically, Soviet bureaucratic momentum was such that this latter group operated in Khabarovsk and Petropavlovsk after the war's end--from 1 September 1945 until 24 December 1945.³⁶⁶ Their exit sealed the door to genuine Far East-American aeronautical cooperation over the North Pacific for twenty-five years.

Before going further, we need to realize that political considerations were not the only reasons for abandoning air routes with the Far East. In 1938, Moscow analyst P. Khoretskii confirmed the North Pacific route as indisputably the shortest route between continents. At the time, however, Soviet Russia's prime concern was making U.S.-Moscow connections, not U.S.-Far East ties. Consequently, his article favored developing a North Atlantic bridge between New York and Moscow via Reykjavik, Iceland. Even by that time, aircraft range improvements made the Atlantic's longer overwater distances less of an obstacle. In addition, the lack of adequate meteorological stations underscored the risks involved in any northern approach.³⁶⁷ Years later, Lindbergh's autobiography shared how even in 1931 he was convinced that "Arctic routes to Asia would be the last ones developed."³⁶⁸ He was correct. By the latter 1950s, aircraft technology advanced to where

³⁶⁵ Otis Hays, Jr. Home From Siberia: the Secret Odysseys of Interned American Airmen in World War II (College Station: Texas A&M University Press, 1990), xi.

³⁶⁶ G. Patrick March, "Yanks in Siberia: U.S. Navy Weather Stations in Soviet East Asia, 1945," Pacific Historical Review 57 (Aug. 1988), 340.

³⁶⁷ "Most Feasible Air Routes Between USSR and USA," in U.S. Military Intelligence Reports: The Soviet Union 1919-1941 (Frederick, MD: University Publications of America, Inc., 1984), reel 7, frame 795, microfilm.

³⁶⁸ Charles A. Lindbergh, Autobiography of Values (New York, NY: Harcourt, Brace and Jovanovich, 1977), 110 quoted in Perry, 219.

jetliners could easily cruise non-stop along great circle routes well above the weather hazards that plagued unpressurized, prop-driven aircraft. Like shipping across the North Pacific great circle routes, aviation outgrew its dependency on interim stopover points. Nevertheless, geographic proximity still inspired American entrepreneurs to engage the Far East by air, but they had other hurdles to cross.

Renewed Contacts

Recalling Perry's formula, the development of U.S.-Soviet air routes increasingly hinged on politics. Consequently, routes to the Far East had to "pass through" Moscow first. From President Eisenhower's invitation on 15 July 1955, until the inaugural exchange by Pan Am and Aeroflot on 15 July 1968 (New York-Moscow), it took thirteen years of diplomatic wrangling to establish such ties. The exchange was largely a symbolic gesture. On 1 July that year, the White House signed the Nuclear Nonproliferation Treaty and both sides agreed to begin SALT (Strategic Arms Limitation Treaty) talks.³⁶⁹ An aviation event which happened in the Far East during that month underscores air travel's political visibility as well as the concerted effort each nation made to improve relations at that time.

On 1 July 1968, Soviet fighters forced a Seaboard World Airlines DC-8 to land on Iturup Island after it allegedly violated Kuril airspace. Military Airlift Command chartered it to carry American troops to Vietnam, and the U.S. State Department hastily apologized to gain quick release of the 214 servicemen on board. Japan chastised the U.S. for its implied recognition of Soviet sovereignty over the disputed Northern Territories.

³⁶⁹ Heymann, v. 54.

The State Department promptly issued a statement to appease Tokyo. Moscow then demanded an apology from the U.S. for its "inconsistency." Meanwhile, the Soviet Union endured ridicule by Communist China for releasing the aircraft.³⁷⁰ Two years later, in the shadow of such intricate international politics, a small company made its bid to fly into the Far East and renew the North Pacific connection.

Under the aggressive leadership of Charlie Willis, Alaskan Airlines opened a tourist charter service between Anchorage and Khabarovsk that lasted from June 1970 to mid-1972. Making the Russian connection had been Willis' pet project ever since he took charge of the company in 1957. He helped found the Federal City Club in Washington, DC and frequently button-holed the Soviet diplomats and military officials who visited. No slave to protocol, Willis also made repeated impromptu appeals at the Soviet embassy. When the receptionist informed him that the ambassador was not in, Willis loudly directed his pleas to the chandelier.³⁷¹ The impasse finally broke in late 1969. The combination of Pan Am's New York-Moscow precedent and Willis' brazenness led to the charter's approval.

At the time, Alaska Airlines owned only four jets and thirteen prop-driven aircraft so it had to lease Boeing 707 jet liners to make the "Golden Samovar" run.³⁷² Flight attendants dressed in Cossack costumes and served drinks from large samovars to enhance the flight's theme. In return for \$850, tourists flew from Anchorage to Khabarovsk. From there, Aeroflot and Intourist gave them a whirlwind tour with stops at

³⁷⁰ New York Times, 1-7 July 1968; Stephan, The Kuril Islands, 220.

³⁷¹ Satterfield, chapt. 17 *passim*.

³⁷² *Ibid.*, 150.

Irkutsk, Tashkent, Sochi, Moscow and Leningrad over an eight to fifteen day period.³⁷³

Alaska Airlines picked up returnees in Leningrad and flew a circle around the North Pole before landing back at Anchorage. During those return flights, passengers weary of Russian fare gave a round of cheers when attendants served them a hamburger complete with a tiny American flag.³⁷⁴

For all its flare, the charter evaporated when fiscal and political realities took their toll. The State Department refused to grant Aeroflot reciprocal rights to fly into America, and the Soviet government offered no real trade incentives to draw more than tourists to its Far East, nor did it release any Soviet citizens for tours of Alaska. The Soviets required each overflight to carry Russian crewmen paid and housed at Alaska Airline's expense, and the seasonal leasing of 707s and retraining of aircrews proved unprofitable. In all, the charter made twelve flights in 1970, fourteen in 1971 and a "fewer number" in 1972.³⁷⁵ The goal of commercial air ties between North America and the Far East remained dormant for another sixteen years.

In its twilight, the Soviet Union's leadership reversed its traditional self-reliant economic approach and sought a greater share of Pacific trade. By 1988, these overtures encouraged renewed efforts for passenger service by small, one-man outfits like Jim Rowe's Bering Air as well as good will flights by Alaskan Airlines.³⁷⁶ Air freight

³⁷³ "Flight of the Samovar," Time, 9 Feb. 1970, 74.

³⁷⁴ Satterfield, 150-151.

³⁷⁵ *Ibid.*, 151.

³⁷⁶ "Flights take off for the U.S.S.R.," Anchorage Daily News, 12 Jul. 1989, sec. A, p. 1; Wilbur E Garrett, "Air Bridge to Siberia," National Geographic 174 (Oct. 1988): 505-508; Gunnar Knapp and John Tichotsky. Alaska-Soviet Far East Air Routes: Opportunities and Strategies. Anchorage, AK: Institute of Social and Economic Research, University of Alaska Anchorage, August 1989.

ventures by Northern Air Cargo and Evergreen International probed into Khabarovsk by 1991 as well.³⁷⁷ Unlike the weather hazards faced by aviators in the 1920s, the military calculations around Japan in the 1930s or the Cold War politics of the following decades, finances now pose the greatest obstacle to continued operations.³⁷⁸ As the Far East tries to shed its Soviet economic legacy, prospects of air travel will continue to challenge pilots and accountants alike.³⁷⁹ In ending our look at the efforts to open the Far East's jealously guarded skies, a bit of irony emerges. When preparing for Alaska Airlines inaugural flight into the formerly "closed city" of Vladivostok on 8 June 1993, it was not the condition of the runway or radio facilities that needed improvement to meet ICAO standards--but rather "airport security."³⁸⁰

³⁷⁷ "US air cargo operators look to Far East," Journal of Commerce, 14 May 1991, sec. A, pp. 1, 10 in SUPAR Report 11 (July 1991), 112.

³⁷⁸ "Alaska Airlines cutting back on Russian flights," Tacoma News Tribune, 24 Apr. 1994, sec. B, p. 2 in RA Report 17 (July 1994), 117.

³⁷⁹ In spite of the risks, oil, lumber, and convenient air routes continue to draw Japanese, American and other outside investors to the Far East. "Japan, US, Europe to exploit oil, gas off Sakhalin," Journal of Commerce, 31 May 1994, 48, cited in RA Report 17 (Jul. 1994), 112; "Japan Russia to open new bilateral air routes," Kyodo, 26 Jan. 1994, cited in RA Report 17 (Jul. 1994), 116.

³⁸⁰ William L. Mackay, Vice President for Public Affairs, Alaska Airlines corporate headquarters, Seattle, WA, phone interview by author 2 Apr. 1996.

CHAPTER 6

CIVIL AVIATION WITHIN THE FAR EAST

Up to this point, one might also assign civil aviation's reclusive character to adverse relations with Japan. Though plausible, this conclusion overlooks three basic premises the Soviets followed in shaping their economy and transport network, including aviation. From the outset, their fundamental economic policy emphasized national self-sufficiency, dispersed development, and the primacy of industry.³⁸¹ Throughout the Soviet era, these national priorities, especially self-sufficiency, shaped the Far East economy. Consequently, the region became increasingly attached to, and dependent upon, western Russia with few ties to its Pacific neighbors.³⁸² This pattern largely influenced civil aviation within the Far East.

Far Eastern Economy and Population

Before reviewing some of the highlights of civil aviation's first forty years in the Far East, we need a summary of the region's labor pool under Soviet management. Here, it is also helpful to recall John Curtis Perry's transportation formula of routes, politics, technology and supply, to which I might add, population. Perhaps this combination will

³⁸¹ Holland Hunter, Soviet Transport Experience: Its Lessons for Other Countries (Washington, DC: The Brookings Institution, 1968), 1-3.

³⁸² Dienes, 152.

provide an understanding to civil aviation's developmental pace from 1930 to the early 1970s.

Though highly visible, the opening of a civil aviation administration and air routes in the Far East was but a small fraction of the first Five-Year Plan (1928-1932). This and subsequent economic blueprints perpetuated tsarist Russia's extractive treatment of Siberia. In the late 1920s and 1930s, the nation saw a burst of foreign equipment purchasing and the export of raw materials to finance its rush for industrialization.³⁸³ Consequently, the Soviet Union hauled resources back west for processing with minimal investment toward a diversified, self-sustaining regional economy. This push made gold mining the dominant project in the Far East during the 1930s and created a high demand for workers, but few volunteers stepped forward.

Until Stalin's demise, much of the labor force in Eastern Siberia was prison labor, and this created mainly a one-way flow of passengers. Generally, the Soviet regime moved these prisoners in crowded rail cars or ships' cargo bays eastward and brought extracted materials on the return trip.³⁸⁴ Organization of this enterprise emerged under the first Five-Year-Plan, when the Council of Labor and Defense established *Dalstroi* (Far Eastern Economic Trust) on 13 November 1931. Headquartered at Magadan and managed by Eduard Berzin (until his elimination in 1937), *Dalstroi*'s singular purpose was to extract Kolyma Gold and transport it back to western Russia. By 1938, when the State Security Organ (NKVD) took over its management, *Dalstroi*'s jurisdiction spanned

³⁸³ Hunter, 3.

³⁸⁴ Robert Conquest, *Kolyma: The Arctic Death Camps* (New York, NY: The Viking Press, 1978), 115.

from the Lena River to the Chukotka Peninsula covering most of the Far East. Initially, ninety percent of Dalstroi's workers were inmates and exiles. In the late 1930s, that ratio held at eighty percent and continued at approximately seventy percent in the 1940s. After Stalin's death in 1953, Dalstroi and its camps dismantled, and the administration transformed into the Magadan Oblast. Though over a quarter of the former prisoners left the oblast, most remained in the Far East. Those who left quickly found that they could not return home nor could they settle in the nation's 135 largest (and best supplied) cities.³⁸⁵

The east-west siphoning of resources continued after Stalin, and by the late 1960s, the Soviet economy was largely self-sufficient by world standards.³⁸⁶ However, this independence came at a heavy price. Constant emphasis on withdrawal of raw materials made the Far East increasingly dependent upon support from western Russia while yielding a negative return.³⁸⁷ One of the more costly factors in this equation was state-subsidized air travel for the average laborer.

As use of prison labor tapered off, Soviet economic planners increasingly coaxed workers to the Far East. This trend particularly grew during Brezhnev's tenure when the state invested heavily in the Far East and lured workers with promises of rapid promotion, higher wages, vacations and housing incentives. From 2,562,000 in 1939 to 5,116,000 by 1970, the Far East's free population grew, in part, to draw out reserves of non-ferrous metals, coal, oil and other resources. This population expansion was

³⁸⁵ Stephan, The Russian Far East, 225-232, 245, 256, 267.

³⁸⁶ Hunter, 3.

³⁸⁷ Dienes, 154; Hunter, 43-44; Stephan, The Russian Far East, 269.

somewhat illusory. Bonus incentives only managed to induce one in six workers to remain in the Far East past the minimum years contracted.³⁸⁸ The consequent population shift to and from the Far East pressed the rail system's limits, and this bottleneck led to a search for supplemental transport.

Starting in the early 1960s, the Soviet government increased its emphasis on air travel to shuttle a transient domestic work force to the Far East. Similar rationale prompted aviation advocates during the early 1970s to extol air travel as a labor saving method.³⁸⁹ They often compared air and rail travel arguing that the number of idle work hours spent traveling by aircraft were far less than those spent on trains and, hence, created an overall national savings.³⁹⁰ In concert with such claims, between 1960 and the mid-1970s, Aeroflot and the Young Communist League conducted national campaigns to promote domestic air travel.³⁹¹ As Soviet aviation author, Vladimir Danilenko (see Appendix A) optimistically pointed out in 1972, Moscow's development of Far Eastern resources boosted the region's population. He, too, emphasized the highly mobile nature of Far Eastern residents who extracted the region's abundant wealth by stating:

The aircraft became essential transport not only to cities, but also to work settlements and even villages . . . this means of transport became accessible to a multitude of workers . . . and questions of the Far East's economic development were simply impossible without considering aviation.³⁹²

³⁸⁸ The population figures do not include prisoners or exiles. *Ibid.*, 269, 310; Lipper, 197.

³⁸⁹ Danilenko, *Kryl'ia Dalnego Vostoka*, 98.

³⁹⁰ A. Semenkov, "USSR First Deputy Minister of Civil Aviation Reports," *Grazhdanskaya aviatsiya*, Aug. 1971, 2-3, (Washington, DC: JPRS, 11 Nov. 1971), 3; Aksenov, 10.

³⁹¹ Bailes, 179.

³⁹² Danilenko, *Kryl'ia Dalnego Vostoka*, 82-83.

Table 6.1. Data on Civil Aviation's Passenger, Cargo and Agricultural Activity in the Far East.

[Vladimir Fedorovich Danilenko, *Kryl'ia Dalnego Vostoka* (Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1972), 126.]

<u>Year</u>	Individual Passengers (x 1000)	Tons of Mail (x 1000)	Tons of Cargo (x 1000)	Hectares of Agricultural Treatment (x 1000)
1930	0.52	0.002	0.003	--
1931	0.77	0.016	0.009	--
1932	1.00	0.023	0.016	--
1933	0.80	0.059	0.015	--
1934	1.00	0.008	0.133	--
1935	2.50	0.200	0.040	4.0
1936	4.60	0.700	0.100	--
1937	8.20	0.800	0.200	--
1938	12.20	1.000	0.300	--
1939	14.90	0.900	0.400	--
1940	18.60	0.800	0.600	--
1950	96.60	1.800	4.500	--
1960	774.00	12.500	35.200	106.0
1970	2,726.00	27.800	72.300	1,168.0

The intent of the preceding survey was to offer some explanation for air travel's significant, albeit delayed, expansion in the Far East. As depicted in Table 6.1, the 1970s' boom in passenger movement contrasts sharply with the figures of previous years. The pattern of state-planned labor movement becomes more evident when one considers the transformation of air fares in the Far East. In 1930, a single airplane ticket between Khabarovsk and Okha cost 175 rubles during the brief fair-weather season and 350 rubles during the other nine months of the year. This was a fantastic sum considering the average annual Soviet wage was approximately 700 rubles two years prior. The only ones who could afford to fly as passengers were state administration or party officials who kept pilots scrambling to shuttle them to official appointments. As Danilenko asserted, it would be years before the average worker had access to air travel. Thus, passenger volume remained modest well into the 1950s, but the rates did decline. In 1958, airfare for a comparable flight between Khabarovsk and Petropavlovsk cost 170 rubles (average worker's monthly wage was 85.3 rubles). By 1961, that fare dropped to 76 rubles (standard monthly wage being 92.7 rubles), and rates continued to fall.³⁹³

As ticket prices lowered, air travel to the Far East grew exponentially. Increased passenger volume was such that Aeroflot briefly overcame rail travel as the primary, domestic long-haul transport in the early 1970s. Using August 1970 as an example, of the 27,500 passengers that went between Moscow and Khabarovsk, 25,000 (or 89%) went by air as opposed to the 2,800 (or 10.1%) that went by rail.³⁹⁴ Thus, this period promised

³⁹³ Chapman, 139; Danilenko, Kryl'ia Dalnego Vostoka, 10, 18, 25-26, 38.

³⁹⁴ Aksenov, 13.

entry into a golden age of air travel for an increasingly kinetic society. Official publications at the time trumpeted how the majority of those traveling more than 2,000 kilometers (1,240 miles) from home went by air. Likewise, the emergence of advanced aircraft such as the supersonic Tu-144, the Soviet version of the Concorde, and expansion to international routes held great promise for both the nation and the Far East.³⁹⁵ Such optimism faded when, among many other reasons, aviation's high operational costs outstripped the Soviet economy's need for extensive air travel. I defer closer examination of that decline to more qualified scholars. Nevertheless, we can now step back and more effectively appreciate the Soviet push for a civil air network that drew the Far East toward Moscow.

Civil Aviation under Stalin

The Far East was the most distant, and hence, the last region to integrate into a route structure expanding from the nation's capital. As detailed in the first chapter, civil aviation in the Soviet Union started in western Russia by 1921. Although exploratory seaplane flights probed a route between Moscow and Irkutsk in 1927, it was not until 1929 that the Far East's regional section of Osoaviakhim supposedly appealed for integration into the nation's aerial network.³⁹⁶ It was at this point that Far East civil and

³⁹⁵ Semenkov, 6. The 290,000 pound Tu-144 first flew on 31 December 1968, two months before the first Concorde. Each of its four NK-144 engines produced 43,000 pounds of thrust to hurl it well over 1,500 miles per hour (Mach 2+). However, it had significant technical problems that led to a tragic crash at the 1973 Paris Air Show. It served only for a limited time as a freight carrier between Moscow and Alma Ata from 1977 until Aeroflot removed it from service in June 1978. Alexander, Russian Aircraft Since 1940, 401; John D. Anderson, Jr. "Faster and Higher: The Quest for Speed and Power," in Milestones of Aviation, ed. John T. Greenwood (New York, NY: MacMillan Publishing, Co., 1989), 81; Richard K. Smith, "Better: The Quest for Excellence," in Milestones of Aviation, ed. John T. Greenwood (New York, NY: MacMillan Publishing, Co., 1989), 288.

³⁹⁶ Sharov.

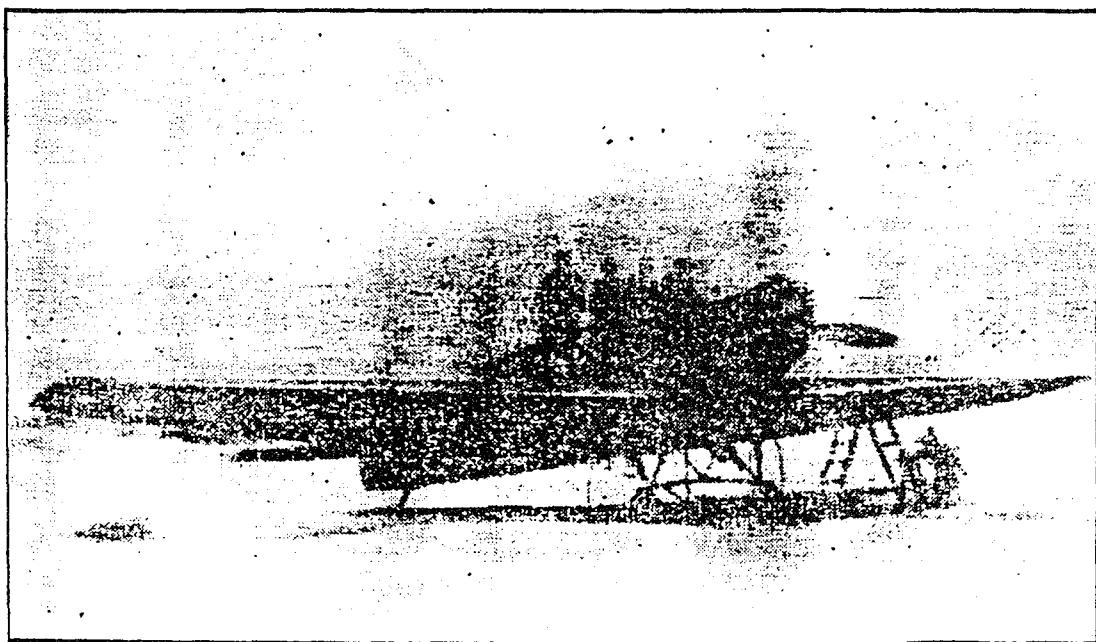


Fig. 6.1. The Fokker F-13 used by Vodop'ianov in the Far East.
[Danilenko, *Kryl'iia Dalnego Vostoka*, 56.]

military aviation split into two centers--Vladivostok and Khabarovsk. Situated at the region's geographic center, Khabarovsk offered a more logical hub to integrate outlying areas while Vladivostok's proximity to Japan sustained its military prominence. Thus, in December 1929, Dobrolet established its branch office at Khabarovsk on Sherenova Street. The headquarters was complete with a "red corner" to help the initial six-man cadre maintain its political bearings--now all they needed was a plane and a pilot to maintain their flight schedule.

Moscow's tight budget made it unwilling to purchase the needed aircraft, so the financial burden of connecting with the center fell on Far Easterners. In Khabarovsk, Aleksei Georgievich Zakharov, a key member of the local Osoaviakhim (see page 47), initiated an aircraft purchase collection drive in 1929 that, according to Danilenko, ranged from Wrangel Island to Lake Khasan and from Chita to Sakhalin. Private donations funneled into the purchase of a German-built Fokker F-13. (See Fig. 6.1.) A single 300-horsepower engine powered the four (open) seat monoplane. Painted on its side was "CCCP-127" and "Dobrolet." It arrived in Khabarovsk by rail in December 1929, and its pilot, Mikhail Vasil'evich Vodop'ianov, the future patron saint of Far East civil aviation, soon followed.³⁹⁷

Born into a peasant family on 6 November 1899, Vodop'ianov grew up in the village of Studenka, now a part of the city of Lipetsk. In February 1918, he joined the Red Army and served as a driver and mechanic. In 1929, he graduated from a military flight school.

³⁹⁷ Danilenko, Kryl'ia Dalnego Vostoka, 9, 36, 136; Sharov.

He then flew briefly between Moscow and Leningrad and Moscow and Irkutsk before heading further east.³⁹⁸

In December 1929, the Dobrolet's assistant director in Moscow abruptly summoned the young Vodop'ianov and thrust a daunting task upon him. Whether supervisors considered him capable, expendable or just available, they directed him to open a passenger route from Khabarovsk to Okha. According to Vodop'ianov's own recollections, his supervisor placed a hand on his shoulder saying, "We need strong, young people at this time."³⁹⁹ That was an understatement. With only six months total flight experience, Vodop'ianov left Moscow on 4 December 1929 for the Far East.⁴⁰⁰ When he arrived at Khabarovsk's train station ten days later, icy, minus thirty-five degree weather and further instructions welcomed him into the Far East.

The on-site Dobrolet supervisor handed Vodop'ianov a map with the assigned route. He had to fly along the Amur River, land at Tambovskoe, Marinsk and Nikolayevsk-na-Amure. From there he was to cross the Tatar Straits to Sakhalin Island and land at Okha. The severe cold froze up the engine and delayed takeoff for thirteen days. That delay gave some breathing space to his predecessor and mechanic, Semen Ivanovich Nizhnikovskii.

Before Vodop'ianov's notable flight, Nizhnikovskii went out by dogsled and literally laid the groundwork just days ahead of the aircraft. Enlisting help from the local population, he and his "willing volunteers" prepared ten landing fields along the Amur up to Nikolayevsk-na-Amure in the dead of winter using only hand shovels. Nizhnikovskii

³⁹⁸ GSE, 1974 ed., s.v. "Vodop'ianov, Mikhail Vasil'evich."

³⁹⁹ Mikhail V. Vodop'ianov, "Sorok let nazad," in Khabarovskii krai god 1971: liudi, sobytija, fakti (Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1971), 104.

⁴⁰⁰ Whiting, "Soviet Civil and Paramilitary Air Power," 576.



Fig. 6.2. Mikhail Vasil'evich Vodop'ianov circa 1938 and 1975.
[Mikhail V. Vodop'ianov, Dyazhdi na poliuse (Moscow: Sovetskii pisatel', 1938), 18; Sovetskaja voennaia entsiklopedija, 1976 ed., s.v. "Vodop'ianov, Mikhail Vasil'evich."]

later became a pilot and commanded a Far East detachment of PS-40 aircraft from 1938 to 1939.⁴⁰¹ Nevertheless, Vodop'ianov took first honors.

On 9 January 1930, Mikhail Vodop'ianov, the first Soviet civil aviation pilot in the Far East founded the 1,180 kilometer (733 mile) air route between Khabarovsk and Okha. The two-day round trip was a vast improvement over the standard eighty-hour (eight to ten-day) round trip by dogsled.⁴⁰² As it developed, this particular route proved to be a right of passage for several famous Soviet pilots. Along with Vodop'ianov, Sigizmund Aleksandrovich Levanevskii (1902-1937) and Anatolii Vasil'evich Liapidevskii (1908-1983) met their first real challenges while flying on this line. All three men were among the first seven to receive the title Hero of the Soviet Union for their actions in the 1934 *Cheliuskin* rescue. Hence, in 1937, the government renamed the Khabarovsk-Sakhalin line the "Route of Heroes" to honor these famous airmen.⁴⁰³

As for the rest of Vodop'ianov's career (see Fig. 6.2), he made regular flights for two more years in the Far East. In early 1933, he had a serious aircraft accident over Kamchatka.⁴⁰⁴ However, he recovered in time to participate in the 1934 *Cheliuskin* rescue and gain permanent fame. In 1937, he flew for a polar expedition, and during World War II, he commanded an air division. Upon his retirement in 1946 as a Major General, he continued with a writing career. Vodop'ianov authored four books: a narrative, Twice to the Pole (1938), an autobiography, Polar Flyer (1952), a biography, Valerii Chkalov

⁴⁰¹ Danilenko, Kryl'ia Dalnego Vostoka, 10-11, 48, 137; Sharov; Vodop'ianov, "Sorok let nazad," 104-105.

⁴⁰² Kalendar znamenatel'nykh i pamyatnykh dat po Dal'nemym Vostoku (Khabarovsk: Spravochno-bibliograficheskii otdel Khabarovskaia kraevia biblioteka, 1965), 4.

⁴⁰³ Danilenko, Kryl'ia Dalnego Vostoka, 27; Sharov.

⁴⁰⁴ Litvinenko, V. "Pokorenie neba Kamchatki." Krasnoe znamia, 7 Oct. 1973, *.

(1954), and a novel The Kireevs (1956). His other awards included four Orders of Lenin, four Orders of the Red Banner and Order of the Great Patriotic War First Class. He died in Moscow in 1980.⁴⁰⁵ Such a long life was exceptional. Most of those who pioneered Far Eastern air routes in the 1930s met an early death when the hazards of climate and poor equipment overwhelmed them.⁴⁰⁶

During Stalin's rule, Soviet civil aviation counted heavily on the bravado of its pilots to compensate for a dearth of personnel and infrastructure. By 1932, the entire staff serving points from Magadan to the Primorye totaled 178. This number consisted mostly of air station attendants as there were only four civilian pilots and seven mechanics operating on Far Eastern air routes that year. Those four pilots were: Mikhail Vasil'evich Vodop'ianov, Vasili Kuzmich Kapridov, Karl Matveevich Renkas and Georgii Aleksandrovich Straube.⁴⁰⁷

Planners did anticipate Dobrolet's need for more pilots. The Khabarovsk Osoaviakhim branch opened the first Soviet civil pilot school of the Far East in February 1931, and the first six pilots graduated on 18 December 1931. On the roster were Nikolai Semenovich Shabalin, Nikolai Andreevich Bozhek, Pavel Nikolaevich Chulkov, Afansii Ivanovich Rudintskii, Stepan Petrovich Vladimirov and Petr Ivanovich Magdalin. In 1932, another ten pilots graduated, and among them was the first female pilot in the Far East, Ol'ga Eremeevna Malisheva. These pilots did not immediately enter work on the route structure. Instead, they became instructors at Vladivostok, Khabarovsk, and

⁴⁰⁵ Sovetskii Entsiklopedicheskii Slovar', 1989 ed., s.v. "Vodop'ianov, Mikh. Vas."

⁴⁰⁶ Danilenko, Kryl'ia Dalnego Vostoka, 21.

⁴⁰⁷ Ibid., 10-13.

Komsomolsk. In 1934, the flight schools became known as aeroclubs, and after World War II, they became aviation and technology clubs until DOSAAF⁴⁰⁸ took over flight indoctrination of Soviet youth.⁴⁰⁹

Although flight school trainees eventually embarked on the air routes, it took some time for the ranks of civil pilots to expand. In stark contrast to the estimated 350 to 500 military aircraft and pilots around Vladivostok and the Manchurian border, the civil air branch for the entire Primorye still had only three Polikarpov PO-2 aircraft, one car and eighteen horses by the end of 1933. By 1935, the number of civilian pilots in the Far East totaled forty-five.⁴¹⁰ Overall, the numbers of civil pilots in the Far East remained far smaller than their military counterparts until well after World War II, and this skeletal staff worked in very crude facilities.

Civil airport development remained a low priority in the Far East until the 1950s. Construction on Vladivostok's concrete airstrip began on 7 March 1932, however, Khabarovsk, the central hub of the Far East civil air network, did not even have a simple grass field until 1938.⁴¹¹ Otherwise, it subsisted until 1953 as a hydroport with little more than a cabin, a stake to tether aircraft, a conical windsock and a floating pier. As Danilenko quips, cargo and passenger unloading was awkward at best, and many went swimming. Such unexpected baths were not for the unprepared. Initially, the living quarters at each air station consisted merely of deerhide tents in which one's hair froze to

⁴⁰⁸ All-Union Volunteer Society for Cooperation with the Army, Aviation and Fleet.

⁴⁰⁹ Danilenko, *Kryl'ia Dalnego Vostoka*, 12, 39, 129.

⁴¹⁰ Ibid., 21-22; Litvinenko; Sharov.

⁴¹¹ Sharov.

the pillow during the winter. Understandably, the hunt for firewood dominated the daily agenda until 1936, when log cabins began to replace the deerhide tents.⁴¹²

Until well after World War II, the region's air stations fared worse than Khabarovsk and subsisted with minimal personnel. The typical airport staff of this period consisted of an airport supervisor, a mechanic and the ubiquitous armed guard. Horses were frequently on the roster, too. Their brute strength eased the task of stretching a large rubber shock absorber used in engine starts of early Soviet aircraft.⁴¹³

Starting water-cooled engines in the Far East's winter extremes took a great deal of effort. After an overnight stop, the crew had to dig the plane out of snow drifts and break it loose from the ice with a wooden sledge. While waddling in bulky, ice-covered sheepskin flight suits, the crews and their "enthusiastic assistants" boiled water in kettles. Then, using a bucket brigade, they poured hot water through the cooling system repeatedly until the engine block warmed up. To thaw the oil in the crankcase, they built a fire of birch limbs in a roasting pan directly under the engine. At the proper moment, the mechanic flooded the motor with ether and the assistants wound the propeller. The pilot yelled "Contact!" and everyone scattered, but the effort was in vain. Invariably, the engine would not start, and the hapless workers had to repeat the entire process before the fuel froze in the cylinders. After one-and-a-half to two hours of this repeated drill, the plane started. The mechanic broke the skis loose from the sledge and scrambled in as the plane lumbered on the takeoff run.⁴¹⁴

⁴¹² Danilenko, Kryl'ia Dalnego Vostoka, 22-23,44.

⁴¹³ Ibid., 15.

⁴¹⁴ Ibid., 17.

Those early aircraft were not only difficult to start, they were also underpowered. During summer, the engines could not lift a full load into the warm air so they ran along the water like an awkward airboat. Frequent breakdowns and weather delays also hampered operations and annual flight "regularity" (a loose expression for "on schedule") fell as low as 2.6% in 1935. Limited to daytime, visual flight, pilots often had to land and wait for better weather. Fishing poles and tackle were standard equipment for both weather and mechanical delays.⁴¹⁵

The Soviet Union did make efforts to upgrade aircraft during the latter 1930s. (See Appendix B for specifics on civil aircraft used in the Far East.) In quick succession, Fokkers, Junkers and Dornier-Wal flying boats entered and exited service as Soviet-built PO-2s, P-5s, ANT-9s and K-5s appeared. In 1938 and 1939, the Far East civil airfleet received its first aircraft with retractable landing gear, twin-engined Tupolev PS-40s and PS-41s.⁴¹⁶ However, one of the most successful aircraft of the 30s and 40s was of Italian design.

In 1932, Georgii Straube and A. S. Demchenko (first name not available) flew a pair of Savoia-Marchetti S-55 seaplanes 14,000 kilometers (8,700 miles) from Italy to Khabarovsk.⁴¹⁷ In September 1933, Demchenko flew his Savoia to establish the first seaplane service between Vladivostok and the Kamchatka Peninsula. In May 1934,

⁴¹⁵ Ibid., 16, 18, 23.

⁴¹⁶ Ibid., 47.

⁴¹⁷ In July 1933, General Italo Balbo led twenty-four Savoia-Marchetti S-55X seaplanes (powered by two 18-cylinder, 750-horsepower engines) across the North Atlantic and made stops across the United States as far as Chicago. This was the second of two trans-Atlantic flights he led in Savoias. The aircraft's solid performance underscored its capabilities as well as the advances in Fascist Italy's airpower. Gwynn-Jones, 62.

Aleksei Iakolevich Ivanov bypassed coast-hugging routes and flew a Savoia directly between Khabarovsk and Petropavlovsk-Kamchatskii. These imported aircraft served faithfully for well over a decade; however, the Soviet push for self-sufficiency erased public memory of their contribution.⁴¹⁸ In 1973, a Soviet writer lamented public failure to commemorate Demchenko's inaugural flight just because he made it in a foreign aircraft.⁴¹⁹

Thus, with a mix of foreign and Soviet-produced aircraft Far Eastern pilots rapidly established a far-flung network. Danilenko clearly states it was not until 1938 that regular flights took place; nevertheless, aviation proved its potential to bind an otherwise unwieldy national periphery. By 1933, routes officially existed throughout the Far East from Vladivostok all the way to Anadyr on the Chukotsk Peninsula.⁴²⁰ The most notable development came in that year when pilot S. Babenko (first name not available) delivered three passengers to complete the final leg of the world's longest overland air route from Moscow to Vladivostok.⁴²¹ By the end of the Second Five-Year Plan (1933-37) the major Far East air/hydroports were: Khabarovsk, Okhotsk, Nikolayevsk-na-Amure, Nizhnetambovskoye, Marinskoye, Troitskie-na-Amure, Petropavlovsk-Kamchatskii, Aleksandrovsk, Okha, Magadan, Ayan and Anadyr.⁴²² Beginning with Okha in October 1932, all the major airports had radio stations by 1936. During the 1940s, workers erected

⁴¹⁸ Danilenko, Kryl'ia Dalnego Vostoka, 20, 31, 36.

⁴¹⁹ Litvinenko; Another symbol of the Soviet push for self-sufficiency came when Far Eastern officials unceremoniously scrapped the region's last two American-made "Catalina" seaplanes in 1957. Danilenko, Kryl'ia Dalnego Vostoka, 79.

⁴²⁰ Ibid., 19, 129.

⁴²¹ Ibid., 22; Filatov, 9.

⁴²² The last symbolic air route expansion in the Far East occurred when Aeroflot established flight service to Komandorskii Island in 1961. Danilenko, Kryl'ia Dalnego Vostoka, 15, 37.

radio beacons to theoretically permit instrument flight as they carried mail and high priority passengers between Vladivostok, Khabarovsk and Moscow.⁴²³ Along with improving communications and transport, aviators accepted a variety of tasks and established enduring precedents for other civil aviation applications.

Wherever they went, pilots fulfilled their ancillary role as agitators and propagandists to rally support for the Soviet path to modernization.⁴²⁴ One popular, but questionable, account details how a pilot took a Siberian village elder aloft into the heavens to settle a local dispute with collectivization authorities. Unable to behold the supernatural at 1,000 meters, the old man marveled instead at the miracle of Soviet technology. Consequently, he and the other peasants allowed their church to become a grain storage facility.⁴²⁵ Doubtless, such conversion efforts employed a wide variety of techniques to mobilize a recalcitrant rural population.⁴²⁶ Along with public loyalty, aircraft aided in other harvests.

The Soviets used aviation extensively to exploit Far Eastern resources. In early 1933, Ivan Ivanovich Vetrov flew the Primorye's first fish reconnaissance sortie (for herring schools).⁴²⁷ The seaplane proved invaluable for this use and soon became standard equipment among Soviet fishing and whaling fleets. Moreover, aviators accelerated forestry management by selecting harvest sites and mill locations as well as monitoring

⁴²³ Ibid., 19, 33, 50.

⁴²⁴ Ibid., 24.

⁴²⁵ Walter Duranty, "Russian Peasants Marvel at Planes," New York Times, 27 Oct. 1929, sec. X, 9.

⁴²⁶ Litvinenko; In the most extreme cases, mobilization of public support meant elimination of dissension. Most notably, the NKVD chekist, Albert Lipskii (known as the "ethnographer with a pistol") sprayed Far East natives from the air with a hand-held machine gun. More benign propaganda methods in the region included visits in 1936 by a two-motor aircraft. It had a fuselage shaped and painted like a crocodile to promote Krokodil, a popular Soviet magazine. Danilenko, Kryl'ia Dalnego Vostoka, 132; Soviet Union, Soviet Aviation, no pagination; Stephan, The Russian Far East, 191.

⁴²⁷ Sharov.

floating timber. By 1935, similar aerial cartographic efforts had scanned eight million hectares correcting map omissions and depiction of terrain features.⁴²⁸

The year 1935 saw several other aviation firsts in the Far East. On 15 May 1935, during a flight between Khabarovsk and Okha, a Savoia-55 commanded by Pavel Mazuruk (see page 140) was the first aircraft in the Far East with an on-board radio. Incidentally, the Far East's first radio operator, Aleksandr Vasil'evcih Tul'vinskii, who was also on that flight, supervised radio installation in subsequent aircraft delivered to the region. As of 1971, he was still working in the signals division at the Khabarovsk airport.⁴²⁹ In 1935, Il'ia Fedorovich Cheremushnikov was the first pilot in the Primorye to spray mosquitoes with insecticide, and Victor Vasil'evich Klimov and Nikolai Loganovich Fomiuk were the first to destroy locust breeding grounds from the air. The latter two treated over 4,000 hectares, and their efforts proved very effective.⁴³⁰ The first medical flight in the Far East also occurred in 1935 when Cheremushnikov delivered a doctor to a remote village on the Amur.⁴³¹ Supposedly, when no landing site was available, the doctors parachuted down to their patients.⁴³² This proved to be a significant role for aircraft. By 1945, Far East civil aviators flew over three-and-a-half thousand such missions. Another advance occurred in 1935 with the aerial delivery from Moscow to Vladivostok (after seventy-five flight hours) of newspaper printing templates for Izvestia and Pravda on 24 June and 1 July, 1935, respectively.⁴³³ In the years to follow, the

⁴²⁸ Danilenko, Kryl'ia Dalnego Vostoka, 25-26.

⁴²⁹ Ibid., 46; Khabarovsk krai god 1971, 73.

⁴³⁰ Ibid., 49; G. Klimov, "V rodnom nebe," Krasnoe znamia, 24 Mar. 1982. *

⁴³¹ Danilenko, Kryl'ia Dalnego Vostoka, 25.

⁴³² Nikolay Volkov, "Soviet Air Strength," Soviet Russia Today, Feb. 1939, 15.

⁴³³ Klimov.

Soviets used aircraft in a wide variety of applications; however, aviation's high operational costs kept its share of the nation's freight transport to a minimum with one main exception.⁴³⁴

Along with transporting mail, camp supervisors, engineers and party officials to Dalstro'i's remote locations, aircraft soon became a conduit for the westward flow of gold to Moscow. In July of 1934, future Hero of the Soviet Union, Polina Osipenko, flew a PO-2 aircraft 425 kilometers (260 miles) north of Khabarovsk. She was among the first to land at Kerbi and integrate that settlement into a gold-shuttle route from Amursk to Khabarovsk.⁴³⁵ As mentioned earlier, the state eventually altered its extraction methods, nevertheless, transport of gold became an enduring application of aviation in the Far East region.⁴³⁶ Among the various accounts by Kolyma camp survivors, Elinor Lipper (she was a prisoner from 1938 to 1949) specifically mentions aircraft departing worksites laden with gold and flanked by fighter escorts. Indeed, aviators became so intimately tied to gold transport from the Far East that officials named a gold mine after Vodop'ianov.⁴³⁷

While pilots were highly privileged members of Soviet society, they still had to act circumspectly around NKVD guards. Veteran pilot Il'ia Pavlovich Mazuruk (born 1906) and his mechanic Veniamin Barukhin often had to fly for hours facing the sun. To gain some relief, Mazuruk improvised some pointed, cloth hoods with openings only for one's goggles. These protective hoods proved useful on frequent cargo runs hauling oats,

⁴³⁴ Hunter, 34.

⁴³⁵ Danilenko, Kryl'ia Dalnego Vostoka, 26.

⁴³⁶ U.S. Department of the Air Force, Characteristics of the Far East USSR and Russian Language Guide (Washington, DC: GPO, 1963), 37.

⁴³⁷ Elinor Lipper, Eleven Years in Soviet Prison Camps (Chicago: Henry Regnery Co., 1951), 273; Conquest, 56, 110.

potatoes, piglets, bees and live bears. However, while on a gold run near the Manchurian border, Mazuruk forgot to advise the young guard on board. When the afternoon sun prompted Mazuruk and Barukhin to don their hoods mid-flight, the vigilant guard drew his weapon and forced them to return to camp. Quick talking back at the worksite clarified the misunderstanding, and Mazuruk continued a notable career.⁴³⁸ He earned the title Hero of the Soviet Union after his 1937 flight to the North Pole. He also flew over the Antarctic, and during World War II, he flew several important missions which led to his 1946 promotion to Major General. He served as a member of the Supreme Soviet from 1937 until 1950 and was still living as of 1989.⁴³⁹

Like Mazuruk, most flyers and technicians of the Far Eastern Administration of Civil Aviation (DVUGA) went to the European theater during World War II. Working conditions remained poor for those left behind, and not until January 1942, did DVUGA pilots and mechanics receive 330 warm, flight coveralls. That equipment was essential for their year-round operations. Twenty-four pilots augmented the military on the ALSIB aircraft ferry route across Siberia. Others flew PO-2s shuttling strategic ores out of Far East mines to collection points along Dalstroi's few roadways (such as the one between Magadan and Seimchan). Workers packed the ore into wooden casks and the PO-2s carried a maximum of 250 kilograms (551 pounds) per flight. Molybdenum, tungsten and other non-ferrous minerals critical for building tanks, artillery and aircraft joined the continued flow of gold used to purchase war materiel abroad. Near the end of the war, the

⁴³⁸ Danilenko, Kryl'ia Dalnego Vostoka, 152-155.

⁴³⁹ Sovetskii Entsiklopedicheskii Slovar, 1989 ed., 754.

DVUGA recovered somewhat, and by 1944, it boasted 1,282 ground support and flight personnel with 180 stationed at Khabarovsk.⁴⁴⁰ This increase presaged a parallel military buildup as the war against Germany subsided.

Danilenko shares how at the end of the war, civil aviation workers had particular enthusiasm for actions against Japan. During the Kuril invasion, DVUGA aircrews ferried fuel, ammunition and water to and wounded from the front lines. They also conducted courier and reconnaissance flights during the brief fight with Japan. After hostilities, some veteran pilots returned to civil aviation in the Far East and helped it enter the jet age.⁴⁴¹

Expansion into the Jet Age

Except for the Deruluft venture, the Soviet Union did not operate any regular international civil air routes under Stalin--not even with satellite nations.⁴⁴² However, foundations for expansion did occur during his tenure. Khabarovsk served as the starting point of this effort in the Far East. In 1947, engineers waded through swamps and designated sites for hangars, an air terminal, administrative buildings, and a runway. On 7 August 1953, then chief of the Far Eastern Administration of Civil Aviation, Boris Grigor'evich Ezherskii, cut the ribbon at Khabarovsk's new airport. Interestingly, migratory waterfowl frequented the airport and presented a significant hazard to aircraft until 1956, when sportsmen enjoyed a season of unusually good hunting. Between 1956

⁴⁴⁰ Vladimir Fedorovich Danilenko, "Dorogi piatogo okeana," v Khabarovskii krai god 1969: liudi, sobytiia, fakti (Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1970), 187; Danilenko, Kryl'ia Dalnego Vostoka, 36,65-67; Sharov.

⁴⁴¹ Danilenko, Kryl'ia Dalnego Vostoka, 49, 67.

⁴⁴² Heymann, 5.

and Ezherskii's retirement in the mid-1960s, major municipal airport construction occurred at Blagoveschensk, Nikolayevsk-na-Amure, Iuzhno-Sakhalinsk, Vladivostok and Petropavlovsk-Kamchatskii. Upon completion, these facilities could process 200 to 400 passengers per hour with Khabarovsk able to handle 700 per hour. During Ezherskii's tenure, twenty-seven smaller airports throughout the Far East capable of managing fifteen to fifty passengers per hour gained concrete runways as well. By the mid-60s, the Khabarovsk airport also gained a servicing hangar able to house two large jetliners, residential buildings, schools, a hotel, and medical facilities. The crowning piece came in 1970 when the DVUGA gained a new administrative building in the city's center.⁴⁴³

In concert with facility construction, the support agencies grew as well. In 1934, one doctor and three medical assistants arrived to work for the aviation administration in Khabarovsk. Before the outbreak of war, a therapist, a surgeon and a neurologist joined the staff. By 1948, ten doctors and over twenty nurses worked exclusively for the DVUGA. However, strict crew rest and medical policy for aircrews did not develop until the late 1950s. In 1957, Aeroflot enacted a standard daily limit of eight hours flight time. By 1970, one hundred doctors served the DVUGA at Khabarovsk in a hospital with 125 beds. Key to this effort was Chief Surgeon Vasilii Grigor'evich Venevskii, who had performed 3,000 separate operations on aviation workers by that same year.⁴⁴⁴ In turn, those personnel conducted equally intricate repairs on machinery.

⁴⁴³ Danilenko, Kryl'ia Dalnego Vostoka, 86-87, 129.

⁴⁴⁴ Ibid., 88-89.

As aircraft modernized, the maintenance personnel had to become more specialized. The transition was long overdue. As late as 1956, pilots still had to maintain dual qualification as mechanics on Li-2s. Moreover, until the late 1950s, Aeroflot operated with single crews dedicated to one aircraft using the principle of "my aircraft, my technician." Thus, whenever a crewmember fell ill, the aircraft halted as well. The stagnation generated by this policy became intolerable as passenger volume increased. Thus, Aeroflot initiated a small revolution among a reluctant staff by implementing a pool system in 1957. This management tool mixes aircrews and aircraft as they come available allowing more efficient flight schedules and regular maintenance efforts. Additionally, by the second half of the 1960s all primary airports of the DVUGA possessed an aviation technical base (ATB). In these facilities, maintenance functions specialized and divided among instrumentation, engines, flight controls, etc. One of the main individuals leading the Far East toward this reorganization was Andrei Petrovich Kurmanchuk. Upon completing aviation technology school, he arrived at Khabarovsk in 1952. His tenure saw Khabarovsk transition from a field of impassable mud to the host of modern airliners including Tu-104s, Tu-114s, Il-62s and eventually Boeing 707s, 727s and DC-8s. In 1965, Kurmanchuk received the Order of Lenin for his ability to keep pace with several large advances in aircraft servicing.⁴⁴⁵

Stepping back a bit, the first major upgrade in postwar aircraft for the Far East came when the Il'yushin Il-12 entered its route structure at the end of 1947. Each of its two engines delivered 3,600 horsepower, and it could cruise over 300 kilometers per hour

⁴⁴⁵ Ibid., 51, 88, 95.

(186 miles per hour) while carrying 2,200 kilograms (4,850 pounds) of cargo--provided no passengers occupied any of its 32 seats. The Il-12 is also notable because it introduced the first on-board stewards to the Far East in 1948. Their duties included supervision of baggage loading, receipt of passengers and maintaining order. Among the first of these stewards were Anna Petrovna Samoiliuk and Anna Filipovna Plotnikova. As of 1972, they still worked for DVUGA as instructors for new flight attendants.⁴⁴⁶

Samoiliuk, Plotnikova and other civil aviation workers witnessed several advances in passenger aircraft. After the Il-12, the next major development in Far Eastern skies was the introduction of the Il-14. Favored by aircrew for reliability and ease in servicing, it first entered production in 1950. The Il-14 first flew on Far Eastern routes in 1954, and it continued to serve for several years. Although propeller-driven and turboprop aircraft dominated Aeroflot's Far Eastern inventory well into the 1970s, jet aircraft did make a sensational appearance at an early point.⁴⁴⁷

On 15 September 1956, a Tupolev Tu-104 flew from Moscow's Vnukovo airport to Irkutsk and ushered Soviet civil aviation into the jet age. The jet roared over the Amur on 8 December 1956 when it first landed at Khabarovsk. Among the first DVUGA crewmembers qualified in the jet were pilots Aleksei Petrovich Sapozhnikov, Boris Matveevich Kalashnikov, and Fedor Sergeevich Urubkov, navigator Pavel Dmitrievich Chibidin, and radio operator Evstafii Spiridonovich Staforandov.⁴⁴⁸ Based on the Tu-16 bomber, the Tu-104's sleek exterior looked great on the tarmac. Its high speed of 750

⁴⁴⁶ Ibid., 69-78.

⁴⁴⁷ Ibid., 79.

⁴⁴⁸ Ibid., 84-85. Vladivostok saw its first Tu-104 in 1957. Klimov.

kilometers per hour (466 miles per hour) and expanded staff of flight attendants offering in-flight meals, reading materials and board games made great material for Soviet press releases. However, the Tu-104 had several problems. The Tu-104's engines were extremely loud and relatively inefficient burning over 4,800 kilograms of fuel per hour (10,573 pounds per hour).⁴⁴⁹ According to one western observer, the aircraft had no control servos, and it took the combined strength of both pilot and copilot to maneuver it. That same individual also noted how the pressurization system was so inadequate that pure oxygen had to be pumped into the passenger cabin (a very costly measure).⁴⁵⁰ Consequently, the Tu-104 spent between seventy and seventy-five percent of its total service life on the ground.⁴⁵¹

Such inefficiency proved too much even for a state-run economy, and the Tu-114 turboprop proved a more viable transport. The Tu-114 made its debut with a nine-hour flight between Moscow and Khabarovsk in April 1961. The Tu-114 served domestic routes well, and it was some time before a truly capable jet transport served in the Far East. That step occurred when Boris Semenovich Egorov of the Moscow Aviation Administration flew the first Il-62 to Khabarovsk on 2 February 1967.⁴⁵²

Coincident with this maturation of long-haul carriers, shorter-range transports such as the Antonov An-10 and the Yakolev Yak-40 fanned out to provide transport and supply to outlying regions. Along with these airframes, local air service in the Far East relied

⁴⁴⁹ Alexander, Russian Aircraft Since 1940, 368.

⁴⁵⁰ Mallan, 120-121.

⁴⁵¹ "The Civil Air Fleet, USSR," Ekonomicheskaya Gazeta 4(28 Aug. 1961): 29, (Washington, DC: JPRS, 26 Jan. 1962), 4.

⁴⁵² Danilenko, Kryl'ia Dalnego Vostoka, 84-85, 107.

heavily upon the helicopter. The region received its first helicopters, Mil' Mi-1s, at Khabarovsk in late 1955. The first DVUGA pilot to fly the Mi-1 that year was Anatolii N. Arsenenkov.⁴⁵³ Space permits just a few examples of the important roles helicopters played in the Far East economy. Starting with V.M. Isaev's (first name not available) flight of an Mi-1 in 1961, rotary aircraft became an enduring, integral part of the Primorye's fishing fleet.⁴⁵⁴ Helicopters' unique capabilities also made them a favorite of geologists, forest rangers, crop-dusters and other various occupations.⁴⁵⁵ A particularly dramatic use came in January 1972, when heavy lift helicopters installed towers for high tension power lines along 15,000 kilometers in the Amur Oblast, Khabarovsk and Primorsky Krais, Sakhalin and Kamchatka.⁴⁵⁶ One other notable helicopter flight occurred in 1966 when Nikolai Vasil'evich Filippov made a demonstration flight between Khabarovsk and Tokyo in a passenger version of the Mi-4.⁴⁵⁷ The flight went well, and it probably furthered interest among foreign carriers to open the Far East.

Between 1965 and 1970, the Soviet Union concluded twenty-two international air service agreements.⁴⁵⁸ By this point, civil aviation's growth within the Far East enabled the region to truly become a window to the Pacific, and 1971 saw several steps toward that goal.

⁴⁵³ Danilenko, "Dorogi piatogo okeana," 187.

⁴⁵⁴ Sharov.

⁴⁵⁵ Semenkov, 2; S. Volkov, "Interview with USSR Deputy Minister of Civil Aviation A. P. Uskov," Vodnyy Transport (Moscow). 18 Aug. 1970, (Washington, DC: JPRS, 25 Sep. 1970), 27.

⁴⁵⁶ Khabarovsk krai god 1972: liudi, sobytiia, fakti (Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1974), 23.

⁴⁵⁷ Danilenko, Kryl'ia Dalnego Vostoka, 103.

⁴⁵⁸ Semenkov, 4.

That year was a banner year not just for DVUGA, but Aeroflot as well. As mentioned in chapter one, the non-stop Tokyo-Moscow service started in 1967. However, true aerial ties between the Far East and Japan did not occur until four years later. On 1 May 1971, Aeroflot and Japan airlines started a regular cargo service between Tokyo and Khabarovsk. On 4 June 1971, this expanded to passenger service. Another important step occurred on 28 May 1971 when the first Tu-154 flew from Moscow to Khabarovsk. The Tu-154 boasted an autopilot capable of cruise and approach to landing within the strictest International Civil Aviation Organization (ICAO) standards.⁴⁵⁹ The ensuing expansion created passenger bottlenecks in several locations, especially Khabarovsk. Inconvenient layovers and unsympathetic staff prompted scathing critiques of Aeroflot in the state press.⁴⁶⁰ In response, Aeroflot made the first use of computer-generated flight schedules in the fall of 1971.⁴⁶¹ This and other improvements in service made the future look bright for Soviet civil aviation. Along with high hopes for national integration by the supersonic Tu-144, Aeroflot envisioned a three-fold increase of international flight activity by 1975.⁴⁶² The pervasive optimism of the time prompted several festive gestures including a commemorative flight in the Far East.

In 1971, an Antonov An-2, with the inscription "The XXIV Congress of the CPSU Commemorates," made a fifteen day trip from Khabarovsk to outlying points in the Far

⁴⁵⁹ Khabarovsk krai god 1971, 72.

⁴⁶⁰ B. Yegiazarov, "Poor Service at Soviet Airports Scored," Komsomol'skaya Pravda, 31 Aug. 1971, (Washington, DC: JPRS, 17 Nov. 1971), 22-24.

⁴⁶¹ "Aeroflot's Winter Roads," Trued (Moscow), 12 Nov. 1971, (Washington, DC: JPRS, 13 Dec. 1971), 35; G. Piskov, "Plans for new Airports and Air Routes Given," Kryl'ia Rodiny 9 (1971): 16-17, (Washington, DC: JPRS, 14 Oct. 1971), 65.

⁴⁶² Semenkov, 4.

East. On board rode a team of journalists, lecturers, and aviators who made several presentations to popularize civil aviation's advances within the Far East. As part of its itinerary, the group traced the "Route of Heroes" first covered by Vodop'ianov forty-one years earlier.⁴⁶³

The goal of this chapter has been to offer some understanding how civil aviation matured in the Far East during its unusually long isolation. As demonstrated, the factors internalizing civil aviation went far beyond distrust of Japan. The Far East's remote location, harsh climate and sparse population posed several obstacles to development, and aviation offered unprecedented means to overcome some of those problems. Consequently, state planners called upon civil aviation to perform a variety of tasks as they attempted to control and exploit the region's wealth for their own use. Moreover, the nation's drive for self-sufficiency created distinct patterns in labor and settlement. These, in turn, drove the tempo of civil air transport. It was not until the Soviet Union achieved economic self-sufficiency in the 1960s that it became inclined to expand civil aviation beyond its borders. Thus, for its first forty years, civil aviation served more to bind the Far East to Moscow than to connect it with neighboring Pacific economies.

⁴⁶³ Khabarovsk krai god 1971, 69.

CONCLUSIONS

Russia is an "air-minded nation," and it has a long lineage of individuals who, as Russians say, helped "conquer the Fifth Ocean of the sky."⁴⁶⁴ Distance from western Russia did not remove the Far East from this endeavor. If anything, the region's remoteness and range of climatic extremes made it a proving ground for Russian and Soviet airmen as well as a showcase for the nation's aerial capacity. Likewise, the Far East's potential riches and strategic position both challenged state planners within and inspired aviation visionaries abroad. These goals served at cross purposes.

From aviation's tsarist beginnings, and throughout its maturation in the Far East, military priorities dominated. Though not exclusively, ill-timed enmity with Japan had a major impact on the character of aviation in the Far East. Those adverse relations coincided with key years of aviation's development, and to a great extent placed military aviation far ahead of its civil counterpart within, and withered prospects of developing more benign aerial ties outside the Far East. This armed legacy endured until the demise of the Soviet Union. Moreover, perceptions of both the region's vulnerability and centrifugal propensities prompted Moscow to employ civil aviation to tighten its grasp on

⁴⁶⁴ Scott W. Palmer, "On Wings of Courage: Public 'Air Mindedness' and National Identity in Late Imperial Russia," The Russian Review 54 (Apr. 1995): 209; Vladimir Fedorovich Danilenko, Kryl'ia Dalnego Vostoka (Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1972), 10.

the Far East. Aviation provided means for both improved communication and exploitation of Siberia's wealth as the Soviet Union pursued an independent economy.

As for developing international air routes with the Far East, the Soviets made little more than symbolic gestures to achieve political ends. With Japan, they made flights to consolidate newly gained diplomatic recognition, while similar flights served as bait to gain recognition by the United States. Once relations soured with Japan and the recognition by the United States was assured, Soviet intentions of opening its Far East skies to foreign aircraft became a lost cause until such ties proved politically useful nearly forty years later. Once military aviation guaranteed a hermetic seal on the Far East, internal civil development received more attention. Rather than a bridge reaching out to embrace Pacific neighbors, air routes to the Far East served more as a claw to jealously clutch the region away from would be interlopers. Thus, from its aerostat beginnings to heavy military investment and internalized civil air service, aviation became more of an aegis for the Far East than an access to the Pacific.

APPENDIX A

RUSSIAN AUTHORS' BIOGRAPHIES

Chevychelov, Mikhail Efimovich--born 31 August 1933 near Donskoy of the Kursk Oblast. He attended school through the seventh grade in his native village then moved to the regional capital of Zolotukhino where he completed schooling through the tenth grade. In approximately 1939 or 1940 he saw his first aircraft, a two-motored Lisitkin Li-2 (Il'yushin Il-12) "Douglas," which mad a forced landing in a meadow near his home. Soon after that encounter, on his very first day of school age eight, bombs struck his school. He continued studies throughout the war.

In 1952, Mikhail Chevychelov entered the Eiskoe Aviation School of the Order of Lenin named for Stalin, from which he graduated in 1955 in the grade of Lieutenant. He learned how to fly in three types of aircraft: the Yak-11, Yak-18, and the MiG-15. Each aircraft took one year to complete qualification. After training, he received a Naval Aviation assignment in the Primorskii Krai at Novonezhno. During his flying career, he accumulated 2,000 total flight hours and received various commemorative awards and medals.

At the end of the 1950s, the military began a reduction in forces and reassigned Chevychelov to transport aviation. He served in that division from 1955 to 1963 as an Il-2 pilot. During his flying years, he also developed an interest in writing poetry and prose. Therefore, when the newspaper *Boevaia vakhta* (Military Guard) advertised a competition for the best essay about military service, Chevychelov submitted one of his many works.

He subsequently garnered first place, and the editorial staff invited him to become a military journalist in the aviation department for the *Boevaia vakhta*. Upon accepting the job offer, however, he gave up the right to fly.

He wrote the book *Tikhookeanskovo sokoly* (Pacific Ocean Falcons) (1984) from archival materials in the Pacific Fleet Museum of Aviation and from memoirs of veterans and journalists. During our interview, he pointed out that the work has few references because of heavy censorship at the time of its printing.

M. E. Chevychelov retired from the service as a Lieutenant Colonel. He presently lives in Vladivostok with his wife, and they have three daughters. He continues to write articles and published two poems. "*Da budet volia twoia*" ("Yes, there will be freedom for you") is about contemporary life in the nation and region. The other poem is about the *Belyi dom* (The "White House" is Vladivostok's regional government building); he was a witness to events in the "revolution" of 1991. He also has an unpublished manuscript for a novel titled "*Beriu*" ("I Believe"). It is primarily an autobiographical work about childhood years, dispossession, war, and the occupation as well as the difficult times of the reconstruction period. The main theme of that work--the author believes in better times for Russia and the Russian people.⁴⁶⁵

⁴⁶⁵ Mikhail Efimovich Chevychelov, interview by author, Vladivostok, Russia. 27 June 1995

Danilenko, Vladimir Fedorovich--native of the Primorskii Krai (born 3 April 1921).

During school years, he studied in state-sponsored aeroclubs and developed a lasting interest in aviation. In the latter 1930s, he joined the army. During World War II, he served as a scout, an intelligence officer and as part of the Berlin occupation force. After the war, he worked for the Communist Party and with the Komsomol until he graduated from the Higher Trade Union School (VPSH) in Khabarovsk. Thereafter, he was editor of the widely circulated newspaper *Tikhookeanskii aviarabotnik* (Pacific Ocean Aviation Worker) under the Far Eastern Administration of Civil Aviation (DVUGA). He also worked for DVUGA's Department of Work Operations and Construction for a total of twenty-five years with Aeroflot before retiring. He has written six volumes about the history of aviation, two books about harvesting fir trees, as well as many articles in newspapers, magazines and other publications. As of 1995, he still lived in Khabarovsk and was working on another aviation manuscript about transit flights between America and Russia by individuals such as Wiley Post, Semen Shestakov, Sigizmund Levanevskii and others.⁴⁶⁶

⁴⁶⁶ Information provided by the Gorky Public Library in Vladivostok, Russia.

APPENDIX B

DATA ON CIVIL AIRCRAFT AND HELICOPTERS THAT OPERATED IN THE FAR EAST BETWEEN 1930 AND 1972

[Vladimir Fedorovich Danilenko, Kryl'ia Dalnego Vostoka (Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1972), 127; John A. Parker, ed., The Soviet Aircraft Industry (Chapel Hill, NC: Institute for Research in Social Science, 1955), passim; Jean Alexander, Russian Aircraft Since 1940 (London: Putnam, 1975), passim.]

Aircraft/Helicopter Type ^a	Year Entered Production	Number of Engines	Engine Capacity in Horsepower ^b	Cruise Speed (km/hr)	Available Seats	Maximum Range (km)
Fokker F-13	1925	1	300	190	4	1000
Antonov PS-9 (ANT-9)	1929	2	500	200	9	950
Kalinin K-5	1929	1	500	170	6	1020
Polikarpov P-5* (R-5)	1928	1	500	200	2	900
Polikarpov PO-2	1927	1	100	100	1-2	530
Shavrov Sh-2*	1930	1	100	120	3	420
Savoia-55*	1933	2	850	210	12	2000+
Gribovskii G-2* (TB-3)	1932	4	450	160	10-20	900-2000
Beriev MP-1*	1935	1	450	180	6	1000
Tupolev PS-7* (R-6)	1932	2	450	200	10-12	1000
Beriev MBR-2*	1935	1	450	180	6	1000
Tupolev PS-35	1936	2	800	360	10	2000
Douglas PS-84 (Li-2/ Il-2)	1939	2	1000	240	24	2500
Glenn Martin*	1932	4	1200	240	50	2500+
Tupolev PS-30	1940	4	--	--	45	--
Tupolev PS-40	1938	2	550	250	1000 kg	1000
Antonov An-2	1948	1	1000	190	12	1200
Il'yushin Il-12	1946	2	1800	300	32	2200

^a* Denotes amphibian or seaplane.

^bEngine capacity of jet aircraft is in pounds of thrust.

APPENDIX B (Continued)

Aircraft/Helicopter Type	Year Entered Production	Number of Engines	Engine Capacity in Horsepower [†]	Cruise Speed (km/hr)	Available Seats	Maximum Range (km)
Il'yushin Il-14	1950	2	1900	350	36	2100
Tupolev Tu-104B	1955-56	2	20,945 lb.	780	100	3000
Il'yushin Il-18	1960	4	4000	650	90-100	6500
Antonov An-10	1960	4	4000	650	112	2600
Antonov An-12	1962	4	4000	650	20 metric tons	5600
Antonov An-24	1965	2	2550	450	50	1700
Tupolev Tu-114	1959	4	10,000	821	170	8000
Il'yushin Il-62	1968	4	23,150 lb.	870	186	8600
Yakolev Yak-40	1968	3	3600	550	24-36	2000
<u>Helicopters</u>						
Mil' Mi-1	1955	1	575	130	3	470
Mil' Mi-2	1961	2	400	180	8	500
Mil' Mi-4	1954	1	1700	140	16	500
Mil' Mi-6	1956	2	5500	250	12 metric tons	1160
Mil' Mi-8	1966	2	1500	200	28	650
Mil' Mi-10	1967	2	5500	250	11 metric tons	718

[†] Engine capacity of jet aircraft is in pounds of thrust.

BIBLIOGRAPHY

Both the text and this bibliography use the Library of Congress (LC) system of transliterating Russian throughout. The exceptions to this use the original transliterations found in the citations of published English translations (such as those by JPRS) for ease of subsequent reference. Place names use the spelling found in the Times Atlas of the World, 9th ed. except where it conflicts with the LC method. The following abbreviations are used in the footnotes:

<u>GSE</u>	Great Soviet Encyclopedia
JPRS	Joint Publications Research Service
<u>MERSH</u>	Modern Encyclopedia of Russian and Soviet History

I. Unpublished Sources

Bartow, Thomas P. "Early Transpacific Aviation 1930-1941." M.A. thesis, University of Hawaii, 1958.

Carter, James H. "Bear on a Leash: Stalin's Air War in Korea, 1950-53." M.A. thesis, University of Hawaii, 1993.

Chevychelov, Mikhail Efimovich. Interview by author, 27 June 1995, Vladivostok, Russia.

Knapp, Gunnar and John Tichotsky. Alaska-Soviet Far East Air Routes: Opportunities and Strategies. Anchorage, AK: Institute of Social and Economic Research, University of Alaska Anchorage, August 1989.

Le Vell, Stephan. "The Haunting Mystery of '2242.'" Manuscript [photocopy] Russian Collection, University of Hawaii, HI.

MacArthur Memorial Archives. Norfolk, VA. "Japanese Estimates of Soviet Armed Forces on the Soviet-Manchuria Border 1931-45." Materials relating to Japanese intelligence operations in the Soviet Far East, 1931-45, RG 6, box 99, folio 4.

Sutton, Stephen Lee. "Geographic Factors in the Development of Civil Aviation in the USSR." M.A. thesis, University of California, Los Angeles, 1964.

II. Published Sources in Russian

[An asterisk (*) signifies page number not available.]

Arlazorov, Mikhail, Grazhdanskaia reaktivnaia sozdavla' tak... Moscow: Izdatel'stvo politicheskoi literatury, 1976.

Avgustovskii, B. A. "Letaiushchie etazherki." Krasnoe znamia, 5 Aug. 1978, 3.

Babushkin, Mikhail Sergeevich. Zapiski letchika. Moscow: Izdatel'stvo Glavsevmorputi, 1941.

Buiakov, Aleksei. "Morskie vozdukhoplavateli." Vechernii Vladivostok, 22 May 1990, *.

Chevychelov, Mikhail Efimovich. Tikhookeanskie sokoly. Vladivostok: Dal'nevostochnoe knizhnoe izdatel'stvo, 1984.

Danilenko, Vladimir Fedorovich. "Dorogi piatogo okeana," v Khabarovskii krai god 1969: liudi, sobytiia, fakti. Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1970.

_____. Kryl'ia Dalnego Vostoka. Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1972.

_____. "Pervii polet v nebe Dalnego Vostoka." Suvorovskii natsk, 11 Mar. 1992, 6.

Ezhegodnik Bol'shoi Sovetskoi Entsiklopedii. 16 vols. Moscow: Sovetskaia Entsiklopediia, 1975-1990.

Filatov, Iurii. "Aviatsiia v Rossii poiavilas' blagodaria dal'nevostochnikam." Vladivostok, 20 Aug. 1994, 9.

Kalendar znamenatel'nikh i pamitnykh dat na 1967 god po Dal'nemu Vostoku. Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1967.

Kalendar znamenatel'nikh i pamiatnykh dat po Dal'nemu Vostoku. Khabarovsk: Spravochno - bibliograficheskii otdel Khabarovskaia kraevia biblioteka, 1965 and 1970.

Kaminskii, Iurii, "Vse znali o pobede. O tragedii prikazano bylo molchat' . . ." Golos 42 (18-24 Oct. 1993): 6.

Khabarovskii krai god 1969 (1971, 1972): liudi, sobytija, fakti. Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1970 (1972, 1974).

Kiriukhin, Nikolai Kuzmich, red. Na kraiu neba. Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1976.

Klimov, G. "V rodnom nebe." Krasnoe znamia, 24 Mar. 1982, *.

Kokkinaki, Vladimir i Aleksandr Briandinskii. "Nash perelet." Krasnoe znamia, 2 July 1938, *.

Koliagin, V. "Na vzlete." Krasnoe znamia, 27 Feb. 1987, *.

Kravets, A. "Slavnaia istoriia." Krasnoe znamia, 18 Aug. 1971, *.

L'dovskii, Leit. "O iavleniakh, dostoinykh udivlenii." Za Rossiju (Shankhai), Jan. 1936, 5.

Litvinenko, V. "Pokorenie neba Kamchatki." Krasnoe znamia, 7 Oct. 1973, *.

Natalkin, Iu. "Pervaya aviapochta." Krasnoe znamia, 25 Apr. 1981, *.

Pechorin, V. "Pionery russkom aviatsii." Krasnoe znamia, 23 Sep. 1982, *.

Poloukhin, V. "Pervye vozdukhoplavateli." Vladivostok. 12 Jan. 1994, *.

Rosenfel'd, S. "Tak nachinalos' vozdukhoplavanie," Vladivostok, 15 Feb. 1991, 4.

Sharov, P. "Moguchie kryl'ia." Krasnoe znamia, 9 Feb. 1973, *.

Shcherbak, V. "10 sekund, kotorye potriasli mir." Utro Rossii, 8 Aug. 1992, 5.

Sholokh, Evgenii. "Besprimernyi perelet." Vechernii Vladivostok 49 (23 Sep. 1989), 5.

_____. "Esli nado, Kokkinaki doletit do Nagasaki." Vladivostok, 26 June 1993, 6, 11.

Sibirskaja sovetskaia entsiklopedija. 4 vols. Moscow: Sibirskoe kraevoe izdatel'stvo, 1929-1934.

Smeian, V. "Na tsare aviatsii." Vladivostok, 17 Aug. 1991, 4-5.

Sovetskaia voennaia entsiklopedija. 8 vols. Moscow: Voenizdat, 1976-1980.

Sovetskii Entsiklopedicheskii Slovar'. Moscow: Sovetskaia Entsiklopediia, 1989.

Suvorov, E. "Pervye kryl'ia." Krasnoe znamia, 9 July 1967, *.

Tomov, V. "Eskadri'l'ia Ul'timatum." Krasnoe znamia, 18 Nov. 1977, *.

Trofimov, Vladimir. Staryi Vladivostok: Old Vladivostok. Vladivostok: Utro Rossii izdatel'stvo, 1992.

Ufimtsev, Iurii. "Kryl'ia strany sovetov." Vladivostok, 20 Aug. 1994, 8.

Vodop'ianov, Mikhail V. Dvazhdi na poliuse. Moscow: Sovetskii pisatel', 1938.

_____. "Sorok let nazad." Khabarovskii krai god 1971: liudi, sobytia, fakti. Khabarovsk: Khabarovskoe knizhnoe izdatel'stvo, 1971, 104-105.

"Zhertvy neob'iavlenykh voin: Oni uletali v nikuda," Vladivostok, 21 Jul. 1994, 7.

"Zhertvy neob'iavlenykh voin--Tikhii okean: boi kotorovo ofitsial'no ne bylo," Vladivostok, 12 Jan. 1994, 7.

Zuev, Vladimir. "Na vzlete." Dal'nevostochnii uchenii 23 (July 1991): 8.

III. Published Sources in English

"Aeroflot, 97 aboard, disappears in Far East." The Honolulu Advertiser, 7 Dec. 1995.

"Aeroflot's Winter Roads." Trud (Moscow). 12 Nov. 1971. Washington, DC: JPRS, 13 Dec. 1971.

"Airplane Accident." Trud (Moscow), 20 May 1972, 3. Washington, DC: JPRS, 23 June 1972.

"Air Transport System Examined." Ekonomicheskaya Gazeta. 40 (Oct. 1972): 1. Washington, DC: JPRS, 3 Nov. 1972.

Aksenov, Aleksandr Fedotovich. Civil Aviation in the USSR: the Fiftieth Anniversary of its Foundation. Washington, DC: NASA, 1974.

Alexander, Arthur J. R & D Soviet Aviation. Santa Monica, CA: RAND, Nov., 1970. R-589-PR.

Alexander, Jean. Russian Aircraft Since 1940. London: Putnam, 1975.

Aten, Marion and Arthur Ormont. Last Train over Rostov Bridge. New York: Julian Messner, Inc., 1961.

Bailes, Kendall E. "Soviet Civil Aviation and Modernization, 1923-1976." In Soviet Aviation and Air Power: A Historical View, eds., Robin Higham and Jacob W. Kipp, 167-191. Boulder, CO: Westview Press, 1977.

Barron, John. MiG Pilot: The Final Escape of Lieutenant Belenko. New York: McGraw-Hill, 1980.

Beaumont, K. M. "Air Transport in the Pacific: A British View." Pacific Affairs 16 (Dec. 1943): 461-474.

Bernstein, Leon. "The Cheliuskin Epic." The Living Age 347 (Sep. 1934): 49-57.

Boyd, Alexander. The Soviet Air Force Since 1918. New York: Stein and Day, 1977.

Bradshaw, Michael J. "Soviet Far Eastern Trade," In The Soviet Far East: Geographical Perspectives on Development, ed. Allan Rodgers, 239-268. New York, NY: Routledge, 1990.

"Bridge to Asia: Alaska, Long Forgotten, Becomes a Hot Spot in U.S. Strategy." Fortune (Mar. 1942): 94-95.

Brontman, Lazar' Konstantinovich. On the Top of the World: The Soviet Expedition to the North Pole 1937. With a Foreword by O. J. Schmidt. London: Victor Gollancz, Ltd., 1938.

Brontman, Lazar' Konstantinovich, and Lev Borisovich Khvat. The Heroic Flight of the "Rodina". Moscow: Foreign Languages Publishing House, 1938.

Brown, Alec., trans. The Voyage of the Chelyuskin. [sic] Cheliuskin. New York, NY: MacMillan and Co., 1935.

Browne, Secor D. Aeroflot Soviet Civil Aviation. New York, NY: Society of Automotive Engineers, 1960.

Byrd, Richard E. "The First Airship Flight Around the World." National Geographic 57 (June 1930): 653-688.

Campbell, Heather. Controversy in Soviet R & D: The Airship Case Study. Santa Monica, CA: RAND, Oct. 1972. R-1001-PR.

Chaney, Otto Preston. Zhukov. Norman, OK: University of Oklahoma Press, 1971.

Chapman, Janet G. Real Wages in Soviet Russia Since 1928. Santa Monica, CA: RAND, Oct. 1963. R-371-PR.

"Circumnavigating the Globe." The Literary Digest 82 (13 Sep. 1924): 13-15.

Cline, Ray S., James Arnold Miller, and Roger E. Kanet, eds. Asia in Soviet Global Strategy. Boulder and London: Westview Press, 1987.

Clubb, Oliver. KAL Flight 007: The Hidden Story. Sag Harbor, NY: The Permanent Press, 1985.

Coates, William P. and Zelda K. A History of Anglo-Soviet Relations. London: Lawrence and Wishart and the Pilot Press, 1945.

Conquest, Robert. Kolyma: The Arctic Death Camps. New York, NY: The Viking Press, 1978.

Constance, Paul. "Alaskan Charter Tests Intra Polar Air Routes." Aviation Week and Space Technology 140 (16 May 1994): 33.

Cook, Alvin D. Nomonhan: Japan Against Russia, 1939. 2 vols. Stanford, CA: Stanford University Press, 1985.

_____. The Anatomy of a Small War: The Soviet-Japanese Struggle for Changkufeng/Khasan, 1938. London: Greenwood Press, 1977.

_____. The Unfought War: Japan 1941-1942. San Diego, CA: San Diego State University Press, 1992.

Craven, Ken. The Story of Soviet Aviation. London: The Russia Today Society, 1945.

Current Digest of the Soviet Press. 1949-1951, 1976-1994.

Da Cunha, Derek. Restructuring of Soviet Far Eastern Air Power. Singapore: Institute of Southeast Asian Studies, 1991.

Daley, Robert. An American Saga: Juan Trippe and His Pan Am Empire. New York: Random House, 1980.

Dallin, Alexander. Black Box: KAL 007 and the Superpowers. Berkeley, CA: University of California Press, 1985.

Dallin, David J. Soviet Russia and the Far East. New Haven, CT: Yale University Press, 1948.

Davies, Joseph E. Mission to Moscow. New York: Simon and Schuster, 1941.

Dawson, Raymond H. The Decision to Aid Russia, 1941: Foreign Policy and Domestic Politics. Chapel Hill: University of North Carolina Press, 1959.

Dienes, Leslie. "Economic and Strategic Position of the Soviet Far East." Soviet Economy 1 (Apr.-June 1985): 146-176.

Dubinsky, Aleksandr Markovich. The Far East in the Second World War. Moscow: "Nauka" Publishing House, 1972.

Emme, Eugene M., ed. The Impact of Air Power. New York, NY: D. Van Nostrand Company, Inc., 1959.

Erickson, John. Soviet Military Power. London: Royal United Services Institute for Defense Studies, 1971.

_____. The Soviet High Command. New York: St. Martin's Press, 1962.

"Flight of the Samovar." Time, 9 Feb. 1970, 74

"Flights take off for the U.S.S.R.: Small Nome Airline Wins Approval for Charters to Soviet Far East." Anchorage Daily News, 12 July 1989.

Frolov, I. "Role of Soviet Civil Aviation Discussed." Sovietskaya Rossiya, 16 Aug. 1970. Washington, DC: JPRS, 23 Sep. 1970.

"From New York to Nome to Siberia by Air." The Literary Digest (11 Sep. 1920): 95-96.

Futrell, Robert F. The United States Air Force In Korea 1950-1953. Washignton, DC: Office of Air Force History, United States Air Force, 1983.

Gardner, Michael. A History of the Soviet Army. New York: Frederick A. Praeger, 1966.

Garrett, Wilbur E. "Air Bridge to Siberia." National Geographic 174 (Oct. 1988): 505-508.

Garthoff, Raymond L. Sino-Soviet Military Relations. New York: Frederick A. Praeger, 1966.

_____. Soviet Military Doctrine. Santa Monica, CA: RAND, May 1953.
R-223.

Great Soviet Encyclopedia. 32 vols. New York, NY: MacMillan, Inc., 1974.

Greenwood, John T, ed. Milestones of Aviation. New York: MacMillan Publishing, Co., 1989.

Grosvenor, Graham B. "The Northward Course of Aviation." In Compass of the World: A Symposium on Political Geography, eds. Hans Werner Weigert and Vilhjalmur Stefansson, 215-265. New York: MacMillan, 1944.

Gwynn-Jones, Terry. "Farther: The Quest for Distance." In Milestones of Aviation, ed. John T. Greenwood, 16-77. New York, NY: MacMillan Publishing, Co., 1989.

Halliday, Jon. "Rewriting History: A Secret War: U.S. and Soviet Air Forces Clash Directly in Korea." Far Eastern Economic Review, 22 Apr. 1993, 32.

Hardesty, Von. Red Phoenix: The Rise of Soviet Air Power 1941-45.
Washington, DC: Smithsonian Institute Press, 1982.

Haslam, Jonathan. The Soviet Union and the Threat from the East, 1933-41.
Pittsburgh, PA: The University of Pittsburgh Press, 1992.

Hassan, Farooq. "A Legal Analysis of the Shooting of Korean Airlines Flight 007 by the Soviet Union." Journal of Airlaw and Commerce 49 (1984): 555-588.

Hays, Otis, Jr. Home From Siberia: the Secret Odysseys of Interned American Airmen in World War II. College Station: Texas A&M University Press, 1990.

Hersh, Seymour M. "The Target is Destroyed:" What Really Happened to Flight 007 and What America Knew About it. New York, NY: Random House, 1986.

Heymann, Hans, Jr. The U.S.-Soviet Civil Air Agreement from Inception to Inauguration: A Case Study. Santa Monica, CA: RAND July 1972. R-1047-DOS.

Higham, Robin and Jacob W. Kipp, eds. Soviet Aviation and Air Power: A Historical View. Boulder, CO: Westview Press, 1977.

Hill, Lawrence S. American and Soviet Interest in Airships. Santa Monica, CA: RAND, June, 1963. RM-3698-PR.

Hughes, James R. Stalin, Siberia, and the Crisis of the New Economic Policy. Cambridge: Cambridge University Press, 1991.

Hunter, Holland. Soviet Transport Experience: Its Lessons for Other Countries. Washington, DC: The Brookings Institution, 1968.

Jane's All the World's Aircraft. New York: Franklin Watts, 1909-1975 editions.

"Japan Russia to open new bilateral air routes." Kyodo 26 Jan. 1994, cited in RA Report 17 (July 1994): 116.

"Japan, US, Europe to exploit oil, gas off Sakhalin." Journal of Commerce 31 May 1994: 48, cited in RA Report 17 (July 1994): 112.

Johnson, R. W. Shootdown: Flight 007 and the American Connection. New York, NY: Viking Penguin, Inc., 1986.

Jones, David R. "The Beginnings of Russian Air Power, 1907-1922." In Soviet Aviation and Air Power: A Historical View, eds., Robin Higham and Jacob W. Kipp, 15-33. Boulder, CO: Westview Press, 1977.

Jones, Robert Huhn. The Roads to Russia: U. S. Lend-Lease to the Soviet Union. Norman: University of Oklahoma Press, 1969.

Jukes, Geoffrey. Russia's Military and the Northern Territories Issue; Strategic and Defense Studies Center Working Paper No. 277. Canberra: The Australian National University, 1993.

"KAL 007, Case Closed." Far Eastern Economic Review, 12 Nov. 1992, 3.

Keeble, Sir Curtis. Britain and the Soviet Union, 1917-89. New York, NY: St. Martin's Press, 1990.

Kesaris, Paul, ed. Japan, Korea, and the Security of Asia, 1946-76: CIA Research Reports. Frederick, MD: University Publications of America, 1983. Microfilm.

Khisamutdinov, Amir. The Russian Far East: Historical Essays. Honolulu, HI: Center for Russia in Asia, 1993.

Kilmarx, Robert A. A History of Soviet Air Power. New York: Frederick A. Praeger, 1962.

Kindall, Sylvian G. American Soldiers in Siberia. New York, NY: Richard R. Smith, 1945.

Kirk, Grayson. "Wings Over the Pacific." Foreign Affairs 20 (Jan. 1942): 293-302.

Kohri, Katsu, Ikuo Komori and Ichiro Naito, Comps. The Fifty Years of Japanese Aviation: 1910-1960. 2 vols. Translated by Kazuo Ohyauchi. Tokyo: Kantosha, 1961.

Kuscherov, Bertha. Aeronautical Sciences and Aviation in the Soviet Union: A Bibliography. Washington, DC: U.S. Library of Congress, Reference Department, 1955.

Kutakov, Avn P. [Avianachal'nik Pavel S.] "On Guard of Air Borders." Aviatsiya i komsovnatika 8 (Aug. 1971): 1-3. Washington, DC: JPRS, 18 Nov. 1971.

Lattimore, Owen. "The Inland Crossroads of Asia." In Compass of the World: A Symposium on Political Geography, ed. Hans W. Weigert and Vilhjalmur Stefansson, 374-394. New York: MacMillan, 1944.

Lee, Asher, ed. The Soviet Air and Rocket Forces. New York: Frederick A. Praeger, 1959.

Lensen, George Alexander. The Damned Inheritance: The Soviet Union and the Manchurian Crises 1924-1935. Tallahassee, FL: The Diplomatic Press, 1974.

Lindbergh, Anne Morrow. North to the Orient. New York: Harcourt, Brace and Co., 1935.

Lipper, Elinor. Eleven Years in Soviet Prison Camps. Chicago: Henry Regnery Co., 1951.

Lukas, Richard C. Eagles East The Army Air Force and the Soviet Union, 1941-45. Tallahassee, FL: Florida State University Press, 1970.

MacDonald, Hugh. AEROFLOT: Soviet Air Transport since 1923. London: Putnam, 1975.

Mallan, Lloyd. Russia and the Big Red Lie. Greenwich, CT: Fawcet, 1959.

March, G. Patrick. "Yanks in Siberia: U.S. Navy Weather Stations in Soviet East Asia, 1945." Pacific Historical Review 57 (Aug. 1988): 327-342.

Mason, Air Vice-Marshal. R. A. and John W. R. Taylor. Aircraft Strategy and Operations of the Soviet Air Force. London: Jane's, 1986.

May, Ernest R. "The United States, the Soviet Union, and the Far Eastern War, 1941-45." Pacific Historical Review 24 (May 1955): 153-174.

Modern Encyclopedia of Russian and Soviet History. 58 vols. Gulf Breeze, FL: Academic International, 1976-94.

Molokov, Vasilli [sic][Vasilii] Sergeevich. Soviet Civil Aviation. Moscow: Foreign Languages Publishing House, 1939.

Moore, Harriet L. Soviet Far Eastern Policy, 1931-1945. Princeton, NJ: Princeton University Press, 1945.

Murphy, Paul J., ed. The Soviet Air Forces. London: McFarland and Co., Inc., 1984.

"Nakhodka military airfield to handle international flights." Vladivostok Radio, 15 Sep. 1993, cited in RA Report 16 (Jan. 1994): 87.

"Navigational Aids in Soviet Civil Aviation." Grazhdanskaya aviatsiya (Moscow) 3 (Mar. 1966): 22-23. Washington, DC: JPRS, 12 July 1966.

New York Times. 1 Jan. 1920-31 Dec. 1930.

North, Robert N. "The Far Eastern Transport System." In The Soviet Far East: Geographical Perspectives on Development, ed., Allan Rodgers, 185-224. New York, NY: Routledge, 1990.

Ossipenko [sic][Osipenko], Paulina. The Soviet Far East. USSR: Foreign Languages Publishing House, 1939.

Pakhlov, Georgiy A. and Gennadiy N. Gromov. "Development Trends of ATC, Navigation, and Landing Systems for the USSR." Washington, DC: Radio Technical Commission for Aeronautics, 1979.

Palmer, Scott W. "On Wings of Courage: Public "Air-mindedness" and National Identity in Late Imperial Russia." The Russian Review 54 (Apr. 1995): 209-226.

Parker, John A., ed. The Soviet Aircraft Industry. Chapel Hill, NC: Institute for Research in Social Science, 1955.

Perry, John Curtis. Facing West: Americans and the Opening of the Pacific. Westport, CT: Praeger, 1994.

Petrov, Vsevolod and Serafim Ushakov. Transport in the USSR. Moscow: Novosti Press Agency Publishing House, 1967.

Piskov, G. "Plans for new Airports and Air Routes Given." Kryl'ia Rodiny 9 (1971): 16-17. Washington, DC: JPRS, 14 Oct. 1971.

"Polar Air's fuel stops at Khabarovsk airport..." Russian Far East Update vol. 5 no. 12 (Dec. 1995): 2.

Price, Willard. "Japan Faces Russia in Manchuria." National Geographic Vol. 82 No. 5 (Nov. 1942): 603-634.

Public Affairs Information Service. 1915-1960.

Quinn-Judge, Sophie. "Salvaging the Truth: Soviets reveal more details on KAL 007 tragedy." Far Eastern Economic Review, 14 Feb. 1991, 15.

RA Report. nos. 14-17, Jan. 1993-Jul. 1994.

Reader's Guide to Periodical Literature. 1919-1961.

Riaboff, Alexander. Gatchina Days: Reminiscences of a Russian Pilot. Edited by Von Hardesty. Washington, DC: Smithsonian Institution Press, 1986.

Rodgers, Allan, ed. The Soviet Far East: Geographical Perspectives on Development. New York, NY: Routledge, 1990.

Royama, Masamichi Foreign Policy of Japan: 1914-1939. Tokyo: Japanese Council Institute of Pacific Relations, 1941.

"Russia's Flyers and Lindy's Graceful Greeting." The Literary Digest 103 (23 Nov. 1929): 46-48.

Satterfield, Archie. The Alaska Airlines Story. Anchorage, AK: Alaska Northwest Publishing Co., 1981.

Scheitz, Edgar, ed. Dictionary of Russian Abbreviations. New York, NY: Elsevier, 1986.

Schiffer, Jonathan R. Soviet Regional Economic Policy. London: The MacMillan Press, Ltd., 1989.

Schulz-Torge, Ulrich-Joachim, ed., Who Was Who in the Soviet Union. New York, NY: K. G. Saur, 1992.

Semenkov, A. "USSR First Deputy Minister of Civil Aviation Reports." Grazhdanskaya aviatcija, Aug. 1971, 2-3. Washington, DC: JPRS, Nov. 1971.

Serapinin, A. "Prospects of Commercial Aviation in the Far East." The Russian Far East: Economic Monthly 2 (Nov. 1920): 54-56.

"Siberian Far East Airlines: New Wave." Wall Street Journal, 12 Jan. 1993, 10 (A), cited in RA Report 15 (July 1993): 108.

Smith, Myron J., Jr. Soviet Air and Strategic Rocket Forces, 1939-80: A Guide to Sources in English. Oxford, England: ABC-Clio, 1981.

"Soviet Capabilities with Respect to Japan in the Light of US Commitment in Korea." In CIA Research Reports: Japan, Korea, and the Security of Asia, 1946-76. Frederick, MD: University Publications of America, 1983. Microfilm.

Soviet Union. Air Law of the USSR. Moscow: Progress Publishers, 1967.

_____. Soviet Aviation. Moscow and Leningrad: State Art Publishers, 1939.

Stefansson, Vilhjalmur. "The Arctic as an Air Route of the Future." National Geographic 42 (Aug. 1922): 205-218.

_____. "The North American Arctic." In Compass of the World: A Symposium on Political Geography, ed. Hans Werner Weigert, 215-265. New York: MacMillan, 1944.

Stephan, John J. "KAL 007 through Soviet eyes." The (Honolulu) Sunday Star-Bulletin and Advertiser, 20 Nov. 1993, 1, 4 (K).

_____. Russia on the Pacific. Medford, MA: Fletcher School of Law and Diplomacy, 1989.

_____. "Siberian Salient: Russia in Pacific Asia." In Pacific Century: The Emergence of Modern Pacific Asia, ed. Mark Borthwick, 487-506. Boulder, CO: Westview Press, 1992.

_____. The Kuril Islands: Russo-Japanese Frontier in the Pacific. Oxford: Clarendon Press, 1974.

_____. The Russian Far East: A History. Stanford, CA: Stanford University Press, 1994.

Stockwell, Richard E. Soviet Air Power. New York, NY: Pageant Press, Inc., 1956.

SUPAR Report. nos. 4-13, Jan. 1988-Jan. 1992.

Symons, Leslie and Colin White. Russian Transport: An Historical and Geographical Survey. London: G. Bell and Sons. Ltd., 1975.

Tang, Peter S. H. Russian and Soviet Policy in Manchuria and Outer Mongolia. Durham, NC: Duke University Press, 1959.

Taylor, Eugene A. Border Conflict as a Factor in Sino-Soviet Rivalry. Carlisle Barracks, PA: U.S. Army War College, Springfield, VA: National Technical Information Service, 1973. Microfilm.

The Cambridge Encyclopedia of Russia and the former Soviet Union. New York: Cambridge University Press, 1994.

The Cambridge Encyclopedia of Russia and the Soviet Union. New York: Cambridge University Press, 1982.

"The Civil Air Fleet, USSR." Ekonomicheskaya Gazeta 4 (28 Aug. 1961): 29. Washington, DC: JPRS, 26 Jan. 1962.

The Times Atlas of the World. 9th ed. London: Times Books, 1994.

Thiel, Erich. The Soviet Far East: A Survey of its Physical and Economic Geography. Translated by Annelie and Ralph M. Rockwood. London: Methuen and Co., Ltd., 1957.

Unterberger, Betty Miller. America's Siberian Expedition, 1918-1920. Durham, NC: Duke University Press, 1956.

U.S. Department of the Air Force. Characteristics of the Far East USSR and Russian Language Guide. Washington, DC: GPO, 1963.

U.S. Military Intelligence Reports: The Soviet Union 1919-1941. Frederick, MD: University Publications of America, Inc.. 1984. Microfilm.

Van Tuyll, Hubert P. Feeding the Bear: American Aid to the Soviet Union, 1941-1945. New York, NY: Greenwood Press, 1989.

Volkov, Nikolay. "Soviet Air Strength." Soviet Russia Today, Feb. 1939, 14-15.

Volkov, S. "Interview with USSR Deputy Minister of Civil Aviation A. P. Uskov." Vodnyy Transport, (Moscow) 18 Aug. 1970. Washington, DC: JPRS, 25 Sep. 1970.

Watrous, Stephen D., ed. John Ledyard's Journey Through Russia and Siberia, 1787-1788: The Journal and Selected Letters. Madison, WI: The University of Wisconsin Press, 1966.

Webb, Sidney and Beatrice, eds. The Soviet Comes of Age. Freeport, NY: Books for Libraries Press, Inc., 1938; reprint, 1968.

Weigert, Hans W. and Vilhjalmur Stefansson, eds. Compass of the World: A Symposium on Political Geography. New York: MacMillan, 1944.

Westlake, Michael. "Silk Roads of the Air." Far Eastern Economic Review 155 (16 July 1992): 4-6.

Whiting, Kenneth R. Soviet Air Power. Boulder, CO: Westview Press, 1986.

_____. "Soviet Aviation and Air Power under Stalin, 1928-1941." In Soviet Aviation and Air Power: A Historical View, ed. Robin Higham and Jacob W. Kipp, 47-67. Boulder, CO: Westview Press, 1977.

_____. "Soviet Civil and Paramilitary Air Power." In Impact of Air Power: National Security and World Politics, ed. Eugene M. Emme, 572-584. Princeton, NJ: D. Van Nostrand Co., Inc., 1959.

Who Was Who in America with World Notables: 1969-1973. Vol. 5, Who Was Who. Chicago, IL: Marquis, 1973.

Yakhontoff, Victor A. Russia and the Soviet Union in the Far East. New York: Coward-McCann, 1931.

Yegiazarov, B. "Poor Service at Soviet Airports Scored." Komsomol'skaya Pravda, 31 Aug. 1971. Washington, DC: JPRS, 17 Nov. 1971.

Young, Marilyn J., and Michael K. Launer. Flights of Fancy, Flight of Doom. Lanham, MD: University Press of America, Inc., 1988.

Zalucky, Henry K. Compressed Russian: Russian-English Dictionary of Acronyms, Semiacronyms and other Abbreviations used in Contemporary Standard Russian. New York, NY: Elsevier, 1991.

Zhukov, Grigori K. The Memoirs of Marshal Zhukov. Moscow: Novosty Press Agency Publishing House, 1969; first English publication, London: Jonathan Cape, 1971; American edition, New York: Delacorte Press, 1971.